THE

PEDAGOGICAL

SEMINARY.

AN

INTERNATIONAL RECORD OF EDUCATIONAL LITERATURE, INSTITUTIONS AND PROGRESS.

EDITED BY

G. STANLEY HALL,

President of Clark University and Professor of Psychology and Education.

VOL. III.

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OCTOBER, 1894.

	PAGE.
EDITORIAL.	3
A PRELIMINARY STUDY OF MOTOR ABILITY, BY JOHN A. HANCOCK, ...	9
IMITATION IN CHILDREN, BY MISS ELLEN M. HASKELL,	30
ANTHROPOLOGY IN UNIVERSITIES AND COLLEGES, BY A. F. CHAMBERLAIN, PH. D., ...	48
THE LOVE OF NATURE AS THE ROOT OF TEACHING AND LEARNING THE SCIENCES, BY WM. A. HOYT, ...	61
A STUDY OF CHILDREN'S RIGHTS, AS SEEN BY THEMSELVES, BY MARGARET E. SCHALLENBERGER,	87
EDUCATION BY PLAYS AND GAMES, BY G. E. JOHNSON,	97
THE STORY OF THE BOYHOOD OF GREAT MEN, BY A. H. YODER, ...	134
LITERATURE	157
NOTES	179

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THE
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VOL. III. OCTOBER, 1894. No. 1.

EDITORIAL.

With the present number the PEDAGOGICAL SEMINARY enters upon its third volume. The policy of excluding all advertisements, admitting only matter of the highest class, printing at somewhat irregular intervals, and of encouraging the utmost frankness and plainness of speech—each of which items has been said to be sufficient to cause financial failure—has not been wanting in appreciation among the best educators of this and other countries. The circulation of the SEMINARY has steadily grown and the editor, who has had or sought no financial aid outside his own individual purse, is glad to announce that there is every indication that before the close of the present volume it will be entirely self-supporting, and he hopes yield profit enough to warrant improved form with volume IV.

The present number contains four of the important investigations made at the suggestion and under the direction of the editor and Dr. Burnham by members of the pedagogical department of Clark University, which encourages all its members to undertake something of this sort. In the first paper, Mr. Hancock describes the results of a year's work devoted to experimental study of children in order to determine what those of from six to sixteen could do voluntarily with their muscles. Carefully chosen tests were applied with many precautions, and we have in his results, taken with those of Professor Bryan done here two years ago, the first

XUM

scientific data for the gradation of all manual, technical, or gymnastic work, or drawing. Much, of course, remains to be done, but the importance of the Hancock work has already been most warmly commended by several of the leaders in industrial education.

Mr. Hoyt finds among children a far greater love of nature than has been suspected. He thinks the child is by nature somewhat fetishistic, animastic, polytheistic, pantheistic, etc., and that not to give these instinctive tendencies free and full scope at the proper age weakens the love of science, as well as robs religion of its psychological root, and prevents the normal growth of literary appreciation. Love of science which is in danger of decline among city children, religion and literature, each have their common origin in the normal child's spontaneous love of the objects and phenomena of nature. Only those who have done considerable pedagogical thinking can appreciate all the depth and breadth of this principle.

Mr. Johnson catalogued and described nearly 1,000 plays and games of childhood, selected the best, marked each as to educational value for muscle, feeling, attention, memory, perception, will etc., and shows how complete a program of studies could be mosaicked together out of games alone. What additional advantages such a play curriculum would have is also suggested.

Mr. Yoder selected fifty great men, the biography of whose boyhood was most satisfactory, and has sought to show what are the marks of future eminence most recognizable in school children, and what are the laws of normal growth for such.

Miss Haskell publishes another installment of the rich material collected at the Worcester Normal school under Principal Russell's guidance upon the practical topic of imitation in children.

Dr. Chamberlain gives us a bird's-eye view of the academic work in anthropology, of which child study is a department.

Miss Schallenberger prints an interesting study of Children's Rights, as Seen by Themselves.

The PEDAGOGICAL SEMINARY has as its sole purpose and reason for existence progressive educational reform from the

university to the kindergarten — never so needed and never so inevitable in this country as now. Its program of reform in universities has been in part summarized from its pages by the editor in a series of recent articles in the *Forum*, — the *Vorfrucht* of a fuller treatment of this part of the field.

Child study in this country and England has grown up, produced its results and achieved its organization for more systematic work under the auspicies of the PEDAGOGICAL SEMINARY, which has been its chief organ and promoter, and printed, either in original or in the form of abstracts, about all that has ever been done in any land on the subject up to date. About 275 parents and teachers in all parts of the country have corresponded with the SEMINARY during the year concerning active work on child-study, not a few of whom have their work directed by the members of the pedagogical department of Clark University. Our program is to gradually center all study of psychology, philosophy, ethics and perhaps other cognate branches by teachers about child study. This is not only in accordance with the evolutionary tendencies increasingly dominant in nearly every other field, but it will save the philosophical side of pedagogy from its present decline, and place education for the first time on a scientific basis, and be the center about which the education of the future will be organized. The Herbartian study of apperception and interests and the new studies of imitation are in every way admirable, but we must not fall into the habit of mind so characteristic of the old dispensation of adult philosophy of regarding any or all of these as final or as more than a very small part of the standpoints or categories, of psycho-genesis which offers scores of other topics just as large. A report of organization of this work will be found in the Notes.

The SEMINARY has printed many preliminary studies for other, more complete treatises and organizations on the subjects of School Hygiene and Physical Training, the Education of Girls, Technical and Professional Education, etc. Our data now seem to us to be nearly sufficient to warrant an early and more definite statement than has yet been made of the proper course of study for the early years of school life to

XUM

exemplify which we now desire the means to establish an Ideal Seminary School.—PED. SEM. II p. 188.

The SEMINARY still spares no pains and no expense to secure all important new publications, not only in English but in other languages for brief mention, and if space is permissible for digest. This is a unique feature of the SEMINARY, a single number of which sometimes contains reviews of 20,000 to 30,000 pages of carefully selected printed matter. In this as in other respects it seeks to supplement rather than to duplicate other American educational monthlies, bi-monthlies, or quarterlies.

In response to frequent requests for suggestion for guidance in work, the pedagogical department of Clark University proposes to issue a series of topical syllibi for child study, the first one of which upon *Anger* is as follows:

TOPICAL SYLLABI FOR CHILD STUDY.

I. ANGER.

The phenomena wanted are variously designated by the following words: wrath, ire, temper, madness, indignation, sulks, sours, putchiness, crossness, choler, grudge, fume, fury, passion, to be or fall out with.

1. Add any other *terms* or any euphemisms, or phrases you know or can get from children indicating their feelings.
2. Describe every vaso-motor symptom, such as flushing, paling, about forehead, cheeks, nose, neck, or elsewhere. Is there horripilation, chill, shudder, tremor, prickly feeling, numbness, choking, twitching, sweating, if so where and how long. Are there any accompanying sensations of color, flushes, taste, smell, noises, (question for each sense). Can blood pressure be tested?
3. Describe all changes of muscle-tension, scowling, grinding teeth, opening lips, setting of eye, clenching fists, position of arms and attitude of body. Is there nausea or a tendency to either contraction or relaxation of sphincter muscles which control anal or urinal passages.
4. Describe overt acts, striking, (how, down, straight out, with fist or palm), scratching, biting, kicking. At what part are blows or attacks aimed.
5. What is the degree of *abandon* or loss of self control. It is complete and is the rage entirely blind, or usually is some restraint shown in intensity of blows or some consideration in the place attacked.
6. Describe long delayed anger, the venting of secret grudges long nursed and deliberately indulged.
7. Describe intensity curve of quick and slow children.

8. Describe reactions, physical, mental or moral, whether lacitude, contrition, and all verbal or acted signs of regret.

9. How do children speak of past outbreaks of anger in themselves, and of anger in others and in general?

10. What treatment have you found good, and what palliatives do irascible children apply to themselves?

In description be photographically objective, exact, minute and copious in detail. Tell age, sex, family life, temperament, nationality of every child. Add to all a description of your experience with anger in yourself, and if possible get a few of your adult friends, whether good or ill tempered, to write theirs, or organize a little circle of friends, mothers, teachers, neighbors, to talk over the subject and to observe in concert. Above all get children of different age and temperament to talk confidentially, or better to write their own ideas in response to such questions as tell some things which make you angry; when do you get angry easiest; how do you feel and how act, how check it and how feel afterwards; write cases of others getting angry in detail, and state what you think about it generally.

This is a subject of obviously great importance for moral and even physical education, but there is almost no literature worth reading upon it. It is so vast that it can be best explored by concerted effort. The editor desires to investigate the subject and invites you to co-operation by sending him *any notes, however incomplete, upon any aspect of the subject.* Or if preferred you can start with these hints and work out your own data and print your conclusions.

Let us try the concerted method of work and in some way pool its results for the mutual benefit of teachers and for the good of the children we all live for.

XUM

A PRELIMINARY STUDY OF MOTOR ABILITY.

By JOHN A. HANCOCK,
Fellow in Pedagogy, Clark University.

The enormous difference in ability between the child and the adult, both physically and mentally, is fully realized by few. While it is commonplace to say that there is such a difference, yet the practice of the school makes comparatively little allowance for it. Pedagogy is based on the psychology of the adult mind, and the conditions of school-room work are generally adapted to the adult. It is obvious that instruction and discipline should be adjusted to the mental and physical stages of development of children; and that we need to know just what the ability of children of each age is in order to plan a fitting course of education.

The following investigation was begun for the purpose of finding what movements children can best make; to learn something more definite of the relative ability of children and adults, and of the relation between development and decline of motor ability; and also in the hope of finding simple tests for incipient nervous diseases.

I.

In directing the work of a body of teachers in the field of child study, the writer compiled the following circular. It served in his own investigations, of which this paper is a preliminary report :—

THE MOTOR ABILITY OF CHILDREN.

Very little study has been made of the motor ability of children. It is probable that we could teach many of the subjects of the common schools better if we knew just what movements children can make. Kindergarten training would also be placed on a more satisfactory basis.

Preyer has shown that children in learning to talk have the same difficulties as people who have diseases of speech.

Peculiar movements, such as dragging the feet, trembling of the hands or head in adults, are symptoms of certain diseases of the muscles and nerves. It will be of interest to determine whether in the normal growth of children such movements do not also appear.

XUM

It has been suggested that certain nervous diseases of children begin while they are yet able to attend school, and that by simple tests, cases of such diseases may be determined during their school stage.

To aid in solving these problems the following tests have been gathered from various sources, and are now offered for trial and criticism.

In testing pupils take two or three of them at a time, before or after school, noting which time. Record age, sex and nationality. Use but one syllabus at a time—the other some days later. If it should seem best to you, omit any one of the tests. If the pupil shows signs of fatigue, do not continue testing him. Give absolutely no help other than indicated in the directions, for results obtained can not show in any way the value of your teaching. The most insignificant looking paper is often, to the expert, the most valuable; so make no effort to make your returns "show up well." Number your results to correspond with the tests.

First Series.

1. [1]Ask the child to stand with feet close together and hands at sides. Is there any swaying of the body? Try same with eyes closed. What difference?

2. Have him walk across the room backwards with eyes closed. (Keep near him to prevent falling.) Is there any dragging of either foot, walking with feet wide apart, or turning to right or left?

3. Have him try to sit still a half minute exactly. Note all the movements he makes in the effort. Does he hold his breath?

4. Ask him to close his eyes and hold his hands out horizontally with the fingers spread. Is there tremor or twitching of the fingers? Which ones and in what directions? Is it slight or distinct?

5. Hold your hands above your head out of sight and with palms front. Ask him to do the same. Does he raise them to the same height? Hold them symmetrically? Are the fingers or thumbs spread apart on either hand? Which? Which hand sinks first on a half-minute's trial? Hold up your own hands but a moment.

6. Place him ten feet away. Toss back and forth ten times a ball as large as a tennis ball. How and where does he throw it? How many times does he catch it?

7. Ask the boys to lie down on their backs, if they are willing. How do they get up? Have they difficulty?

8. Ask for the pronunciation of these letters and words and note errors: r, l, s, t, k, d, f, n, v, y, go, which, thin, the, long, show.

9. What signs of mental fatigue have you noticed in him in school work? Has he made any involuntary movements during these tests?

10. Please add any comments or suggestions that may occur to you.

Second Series.

1. Does the child dress himself? Button his clothing, and fasten hooks and eyes?

2. Can he tie the ends of a string together? In what kind of a knot?

---

[1]The swaying may be charted exactly and easily; if desired, directions will be given.

3. Can he thread a needle? How small a one? In which hand does he hold it?

4. Can he interlace slats? Interlace four and six before him? See patterns one and two. Does he even copy the pattern?

5. Can he wind thread on a spool? How does he do it?

6. Can he spin a top made of half a spool or button mold? Can he snap a marble?

FIG. 1.

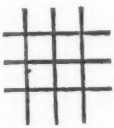

FIG. 2.

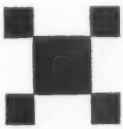

FIG. 3.

FIG. 4.

7. Can he hop on each foot? Stand on tip-toes or heels? Touch his knees or shoes while standing?

8. Place before him pattern number three; give him squares of paper or square blocks; ask him to imitate it. Then show him number four. Does he shift the outer blocks of number three to make the other figure, or does he build anew from the beginning? The patterns may be shown him drawn full size on paper, or made of the blocks. If he fails, divide each pattern vertically in the middle; try him and note results.

9. Count and beat time, double, treble and quadruple. Can he do it? Rapidly?

10. Does he swing his arms or sway his body when walking? Can he march, keeping step as you count time or play for him? Can he run and keep time? Does he, when marching, move the head, eyes, mouth or tongue?

11. Pat the top of your head and at the same time move the other hand in a circle on the breast. Can he imitate you?

12. Rest your fore-arms on the table, the hands in an easy position with the fingers curved, and the lower parts of the palms and the tips of the fingers touching the surface of the table. Begin tapping, letting the movements proceed rapidly from the little fingers to the thumbs. Ask him to imitate you. Notice the movements he actually makes. Are they with the hand and arm moving together from the elbow; the whole hand moving from the wrist; all of the fingers moving in unison from the knuckles; or with index finger alternating with the other three? Reverse the tapping, beginning with the thumbs. Can he imitate you any better? Just what does he do?

13. Can he drive a nail, or hit it squarely after several trials when started for him?

14. Can he roll a hoop? Skate? Turn a somersault or walk on his hands? (The boy, of course.)

15. What movements seem to you to be most difficult for children to learn?

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MCARTHUR. Education in its Relation to Manual Industry. D. Appleton & Co., New York.

One hundred and ten of the children tested are in the public schools of Worcester, fifteen are in a Catholic orphanage, and the remainder in a parochial school. The ages of the children are five, six, and seven. All were in the first year of school work. The children in the orphanage, though mainly from the homes of the very poor, were well cared for. One of the public schools uses a modification of the kindergarten work in connection with the usual primary work. No rejection of any child was made except when over seven years of age.

Previous to beginning work, the school was visited and an effort made to become acquainted with the children. The children were told that no one need be tested unless willing. In three cases children refused, but later came voluntarily and asked to be tested.

At the outset the work was found to be fatiguing to the children. It was accordingly divided into three parts and the round of the school taken with each.

The experiments had in large part to be made in hallways, but this did not seem to make any difference. City children, like their elders, pass and repass people many times each day and pay no attention to them. Rarely was head or eye turned to chance passers.

Two children were sent out at a time. Generally one or more teachers were present as well. At one school also, a boy was present "who, for being good and working hard," was permitted to come out and see the "machine;" and twice a

girl from a higher grade, who came down stairs "with the nose-bleed," spent two hours in "helping."

In the effort to train the intellect of the child, considerable quiet is demanded of him. It is one of the "faults" of children, in the minds of many teachers and parents, that they do not keep as quiet as the adult. The quiet child who sits through the sermon, or who sits still when callers are present, and who does not tear or soil its clothing, is liked and given the reputation of being good.

With the purpose of studying the ability of children to keep quiet, the first test was devised. The apparatus used is known as the ataxiagraph. (1) It consists of an upright support, to which is attached an adjustable arm about two feet long. At its extremity is attached a large cork. A small glass tube passes through it. Within the tube, working up and down, is a glass rod about six inches long, and drawn to a point at its lower end. On the upper end is attached small cork to keep the rod from falling through. A piece of smoked paper is pasted to a glass plate, four by five inches, at the edges. The plate is then ready to attach to a cap. This should be a flat-topped one with a rubber band, under which the plate can be secured at one edge. After the tracing is taken, the plate is removed, the paper cut off, and given a bath in shellac and dried.

Since it appeared that the position taken by the subject required the coördination of a large number of the largest muscles of the body, this test would show something of the control of them. The child was asked to stand with feet close together and hands at sides, to keep his attention on a distant object, and to try to stand still for a minute. After this was done he had a half minute or more of rest, when the test was repeated with eyes closed. Specimen tracings for men and children under similar conditions are given.

No device was available for measuring the amount of movement exactly. It is in almost every case very much greater for children than for men. The rectangles which would just contain these tracings in the anterio-posterior and lateral directions were measured. In thirty cases the tracings were repeated at a later date without material difference in the rectangles, and with fully as miscellaneous movement.

Bullard and Brackett (2) studied the swayings of 150 men who were between the ages of twenty and thirty. They were competing in a physical examination and were all in good health. They were tested for a half minute only. As this fact was not learned till the tests on the children were well under way, a number of tests were made on men for a whole minute, but without material variation from the averages of

XUM

the 150. These averages found by Bullard and Brackett were, with eyes closed, 3.764 cm. in the anterio-posterior direction by 1.951 cm. laterally; with eyes open, 3.475 cm. by 1.963 cm. Hinsdale ([3]) found that normally the anterio-posterior measurement was one-third to one and one-half inches, and that swaying generally increased when eyes were closed. His tests were for a minute. He had but twelve subjects—young men in good health. The average measurement of these men was 2.55 cm. by 2.1 cm.

He found ataxic cases to sway from 5.7 cm. to 7.0 cm. in anterio-posterior direction by 6.35 cm. to 8.2 cm. laterally.

He measured, also, ten cases of chorea. The anterio-posterior average was 2.35 in. (5.5 cm.); the lateral average, 1.45 in. (3.7 cm.).

The averages in my own tests are as follows:

	Eyes Open.	Eyes Closed.
35 boys, 5 years old,	5.8000 cm. by 5.2228 cm.;	6.6810 cm. by 5.7675 cm.
22 girls, 5 years old,	5.7773 cm. by 4.9500 cm.;	5.5400 cm. by 5.0954 cm.
47 boys, 6 years old,	5.1148 cm. by 4.2660 cm.;	5.6957 cm. by 5.1637 cm.
18 girls, 6 years old,	5.0611 cm. by 3.7277 cm.;	5.6000 cm. by 4.3333 cm.
23 boys, 7 years old,	4.9608 cm. by 4.2434 cm.;	6.0086 cm. by 5.4521 cm.
13 girls, 7 years old,	3.9538 cm. by 3.2769 cm.;	4.8230 cm. by 3.7615 cm.

One hundred and ten were steadier with the eyes open than with them shut; forty-eight, with eyes closed; in two cases there was no difference. The child being shorter, would sway less than the man, were other conditions the same. In point of fact there is a significant difference in the other direction.

With eyes open there is an increase of control in each year. The girls are steadier than the boys. Both of these facts were to be expected, since girls mature earlier than boys, yet if the number of subjects was larger, and equal for each sex, a different result might be found.

During these tests frequent twitchings of the fingers were observed in a large majority. Out of this and the many other involuntary movements came the suggestion to try the steadiness of shoulder and finger, and so to get some comparative results for control of large and small muscles.

The instrument named by Jastrow the automatograph was used. It is described by him as follows: ([4]) "There is first a piece of plate glass, fifteen inches square, resting on a stout wooden frame; this frame is mounted on three adjustable brass legs, raising it an inch or so from the table. By means of the screw adjustment of the legs, the plate glass is brought into exact level. Three brass balls, which must be very perfectly turned and polished spheres, about three-fourths of an inch in diameter, are placed in the form of a triangle upon

the plate; upon these balls rests a very light wooden frame. The recording of the movement is equally simple." To the light frame is attached a slender rod about six inches long, bearing at its end a device the same as used to mark the movement in the ataxiagraph. A screen is used to prevent the subject from seeing the record.

No tests so far as known having been made for this particular purpose, trials were first made on twenty-five of the Clark University men. The subject was seated with back supported, the hand and forearm resting with palms downward on the instrument, the elbow slightly flexed, in order that no strain might be brought on the muscles controlling it. The position admits of free lateral movement of the shoulder and of very little in a direction perpendicular to the body. The subject was asked to hold his arm still for a minute. He was told to do this as he looked at his hand. After an interval of a half-minute or more for rest, the test was repeated with the eyes closed. The averages for both men and children are as follows:

	Eyes Open.		Eyes Closed.	
	Perpendicular movement.	Lateral.	Perpendicular movement.	Lateral.
25 men,	.242 cm. by	.752 cm.;	.156 cm. by	1.460 cm.
18 boys, 5 years old,	.816 cm. by	3.400 cm.;	1.027 cm. by	4.916 cm.
15 girls, 5 years old,	.833 cm. by	3.940 cm.;	.780 cm. by	4.706 cm.
34 boys, 6 years old,	1.191 cm. by	4.258 cm.;	.805 cm. by	5.058 cm.
12 girls, 6 years old,	.433 cm. by	3.883 cm.;	1.825 cm. by	4.166 cm.
14 boys, 7 years old,	.500 cm. by	3.750 cm.;	.428 cm. by	5.207 cm.
10 girls, 7 years old,	.410 cm. by	3.580 cm.;	.480 cm. by	3.550 cm.

The relative difference in the control of child and man here is greater. The rectangles are smaller because the levers are shorter, for one thing. The measurements in the case of the children are unsatisfactory so far as the perpendicular movement is concerned. The difficulty of keeping the children from moving the body, although it was well supported, was so great that this measurement is of little value as a test of control of shoulder movement. The breathing also, influenced it more than it did the lateral movement. Recesses in all the schools were so short that the chances for active play unsettling the steadiness of the muscles were very slight.

Bullard and Brackett ([5]) used in testing the control of the entire arm an instrument known as the tremograph. It is described by them as follows: "It consists essentially of a long, light wooden rod, which runs through a closely fitting brass cylinder so hung in a vertical compass joint on the top of a firm upright as to permit of movement both vertically and horizontally in all directions. One end of the rod is fur-

XUM

nished with a thimble, or some other contrivance, for holding the finger, while to the other is attached a Pflüger's pen. Various weights are attached to the rod in order perfectly to balance it. The upright, made of brass, is placed in the centre of a rectangular wooden platform with low grooved sides, into which it fits closely. At one end of this platform is a transverse groove. This groove serves to hold the glass plate, over which the paper for the tracings is stretched, while the board supports it behind."

The subjects sat with back supported, the forearm and hand resting on the table, palm of hand downward with tip of finger resting in the thimble, the thumb and other fingers so placed that no strain or effort should be felt in them. Early in the work, the fact developed that children could not hold their attention for a whole minute on the index finger as requested. No amount of persuasion availed. After a half-minute, and sometimes before, all control of the finger seemed lost, hence the finger tests were all made for a half-minute on both men and children. Control of the muscles and attention seem to me to be too closely associated in young children to permit study of either separately.

The instrument multiplies the movement four times; the results are reduced accordingly. The same university men gave tracings for this test. The following are the results: —

	With Eyes Open.		Eyes Closed.	
	Vertical movement.	Lateral.	Vertical movement.	Lateral.
The men,	.0975 cm.	by .0911 cm.	.085 cm.	by .110 cm.
17 boys of 5,	.985 cm.	by .532 cm.	.794 cm.	by .680 cm.
14 girls of 5,	.580 cm.	by .337 cm.	.714 cm.	by .453 cm.
32 boys of 6,	.396 cm.	by .378 cm.	.689 cm.	by .534 cm.
12 girls of 6,	.394 cm.	by .319 cm.	.535 cm.	by .395 cm.
13 boys of 7,	.419 cm.	by .282 cm.	.693 cm.	by .442 cm.
8 girls of 7,	.300 cm.	by .356 cm.	.312 cm.	by .365 cm.

The same general relations hold in this table as in the others.

Reckoned in terms of the nearest centimeter, the anterio-posterior swayings of men and children are as follows:—

CM.	0	1	2	3	4	5	6	7	8	9	10
150 men . . .	1	20	37	48	25	11	9	6	2	1	0
Children . . .	0	16	1	11	31	45	35	13	13	7	2

The following will show the ranges in lateral control for the shoulder:—

370.5 P3

CM.	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	5.5	7.0	7.5	8.0	8.5	9.0
25 men	0	2	3	2	3	2	2	2	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0
34 5 yr. old boys,	1	0	0	1	0	0	0	0	0	0	3	3	7	4	1	6	1	1	2	1	1	1	1

The chart shows the ranges for the finger.

Bryan ([6]) has shown that the rate of tapping for the child of sixteen is about five times as great as for one of six, and that hand power is later than arm power in developing, but gains and eventually surpasses the arm power. Taking the rectangles of the standing and finger tests, and the lateral measurements of the shoulder test, the ratio of control between man and a five-year-old child in the swaying test is as 1 to 4.1; for the shoulder, 1 to 4.5; for the finger, 1 to 5.8. While these results may not stand with more extended research, the truth evidently lies in the direction they indicate; and, in my opinion, the motor control in man is from three to six times greater than that of children in the first year of school life.

The order of control is from fundamental to accessory, and is evidently in harmony with the theory of physiological development.

II.

The following results are from simple and general tests, and throw some light on the motor ability of children to make complex coördinations, both of larger muscles and of smaller ones.

A pattern found in most of the kindergarten guides consists of four slats interlaced. This was taken for a test, using slats eight inches long and one-half an inch wide. Four were taken and interlaced before the children, and left so for them to see; four others were then given to each child, and the children were asked to interlace them. The slats were interlaced a second or even a third time before the children, yet but one child—a girl of six—succeeded; nine copied the figure, the remaining fifty failed wholly. There was not opportunity to test more.

Test number twelve of the second series gave significant results; 162 children were tested with this, none of whom succeeded in reversing the movement; five succeeded somewhat slowly in tapping correctly with both hands; four were successful with the right hand only, and three with the left; fifty tapped with the whole hand, using a wrist motion; nine with the whole hand, using an elbow motion; five with the

XUM

whole hand, with both an elbow and a wrist motion; forty-nine alternated the index finger with the other three; seven of these, however, did this with one hand only, the movement of the other being with all of the fingers moving together from the knuckles; twenty-five gave irregular movements indefinite and uncertain, but in many instances approaching success; in twelve cases the movement was from the knuckles, all of the fingers moving together.

I am not concerned at present with the effect of training on the ability of children to make these movements, but rather with the problem, what is the period of the development of function in the nerve centers controlling the finer muscles concerned in delicate coördinations? Evidently for these children it is only beginning.

Fifty-six boys were asked to thread a large needle; fifty succeeded, but often only after two or three efforts; six failed, though given extra large needles and more time. It was evidently new to most of them. After the first trial there was in many cases apparent a feeling of nervousness.

Twenty-two out of sixty-three children failed in the effort to tie the ends of a two-foot string together. Those who succeeded tied, in every instance except four, the ends by placing them side by side. This is the simplest form in which it could be done.

In the tests for the coördination of the larger muscles, far less difficulty was experienced. The eleventh test of the second series has often been tried by older people, and in some places by children. It was new to the children reported on here. The novelty first amused them, yet all but three asked, made an effort to get the movement. They were first asked to make one hand move in a circle on the breast; after this was started they were asked to place the other hand on top of the head and pat with it. In forty-five cases the result was either patting with both hands or moving them both in a circle. In the other ninety-seven cases there were first unsuccessful movements, often patting with both hands or moving both in a circle, or an alternating of these, but a considerable degree of success followed in each case.

One hundred and sixty were shown how to beat time. Arm movements were used. Practically all could beat double time freely. Treble and quadruple were more difficult, but by going slowly it was done by all but fifteen. Not more than two minutes' time was taken with each test; and it seems reasonable to suppose that, with ten or fifteen minutes' careful training, all could succeed.

Details of individual cases are of interest. As showing something of the range, these three are given:

M. is a girl of six years. She has now had about eight months' schooling, all told. Her teacher speaks of her as one of the brightest pupils. The rectangles for the swaying tests were 3 cm. by 4.1 cm., and 4.4 cm. by 2.9 cm. These are among the smallest. The lateral movements for the shoulder were 3.8 cm. and 3.1 cm. These were not so small as many others. For the finger the rectangles reduced were .075 cm. by .05 cm. and .15 cm. by .05 cm. Here again she is among the best. She could walk normally with the eyes closed. One finger trembled when she was tested for tremor; but she was quite free from all trace of tendency to chorea. In the tapping test she used a wrist movement for the whole hand, yet she was the only child who succeeded in interlacing four slats. She had no difficulty with any of the tests for the use or coördination of the larger muscles. Her general appearance is that of a healthy, intelligent child. B., a boy of five years, is one of the interesting cases at the other extreme from M. He is one of his teacher's "third best; bright as could be expected from *him;* not very good in his lessons, but *not* a bad boy." His results in the first test were 5 cm. by 2.4 cm. and 8.5 cm. by 4 cm. He so thoroughly lost his balance with eyes closed that he was caught to save a fall. The lateral measurements for the shoulder were 3.3 cm. and 2.2 cm. Here he did his best. The rectangles for the finger were, reduced, .35 cm. by .075 cm. and 1.2 cm. by 1.4 cm. He seems some stronger and brighter than his twin brother, yet the brother's measurements were some better. He shows decided tendencies to chorea, and is generally somewhat nervous. He can not speak distinctly, failing on r, l, f, th, and ng. He failed wholly on the tests for finer movements, while in those for the larger movements, he succeeded only in beating time. A., B.'s sister, is six years old, and is one of her teacher's "second best; she tries hard, but does not succeed so well as some." In the first test her measurements were 4 cm. by 1.8 cm. and 8.5 by 3.5 cm. The lateral movements for the shoulder were 1.2 cm. and 5.2 cm. For the finger they were, reduced, .35 cm. by .5 cm. and .525 cm. by .25 cm. She also has strong tendencies to chorea. In the tests for the control of the finer movements, she was able to differentiate the control of the index finger; she could beat double time only, and failed wholly on test number eleven of the second series. She and her brother are Irish, plain looking, though not stupid, yet evidently not amongst the teacher's best.

The results thus far seem to justify the following inferences, though more extended research may change or modify them.

XUM

Children early learn to make movements involving large muscles. They succeed easily in large movements of some degree of complexity. The order of development of control is, evidently, body, shoulder, arm, forearm and hand. In the hand control the index finger differentiates before that of the others.

Fine and complicated movements are made with difficulty.

Efforts to keep quiet produce strong symptoms of nervous irritation. Movement is inhibited only in part and awkward swayings and twitchings result.

Children have far less control of their muscles than adults, as is shown in each of the tables.

Generally the girl at the same age is steadier than the boy.

Children in normal healthy growth show a lack of coördination and control paralleled only by ataxic, choreic, and paralytic patients.

In support of this there were found thirty-eight, out of 150, dragging the feet or walking with them wide apart when eyes were closed. The swayings of a very large number equal or exceed that of the ataxic patient. With test number four of the first series, in fifty cases there were twitchings and tremor in both directions. In twenty-six cases there were twitchings forward and backward only, and in twenty-seven there were twitchings sideways only. Perhaps the twitchings were noticed more in the left hand, and there in the ring finger. Considerable care and practice are necessary to see and determine these. If this test is of value, apparatus for measuring and recording should be devised and used.

Sturgis' test for choreic tendencies showed that but half of 150 children tested were free from them. To show the importance of a knowledge of chorea and the value which Sturgis places on this test I give here his own statement: ([7])

"1. Movement disorder is the product and the index of mental disturbances, and may be known by nice observations of the higher muscles (the face and hands) before it has reached the stage to which the term St. Vitus' dance (or chorea) properly applies.

"2. When the school child (and especially girls between seven and twelve or thereabouts) alters in temper, works less well, less willingly than usual, gets untidy or slovenly, in a word, degenerates mentally and bodily, inquire of the mother as to home conduct and temper. Ask particularly how the child sleeps and whether she complains of headache or limbache and whether her food is sufficient.

"3. Amongst the incidents of school life apt to be injurious in the way we are considering, there stand out prominently

examinations, moving into a higher class, sums (too difficult or ill explained), and punishment or admonition before fellows.

"4. The best index of muscular infirmity tending to St. Vitus' dance is the hand. Face mobility may be more nervousness, the tongue may be tremulous by nature. The hand test is infallible, and may be thus applied.

"Bid the child hold up both hands open, with extended arms, the palms towards you. If that is done steadily, both hands upright and both alike, no finger or hand quivering, no falling back of either hand, nothing to choose between the positions of the two, then the child has not nor is it near (either before or after) St. Vitus' dance. You may confirm this test by another. Let the child place the open hands upon yours, palm to palm. Look then at the backs of the child's hands, observe whether fingers or thumbs (especially the latter) repose without tremor and without restraint."

In the gradual acquisition of control of its muscles, the child needs to be carefully guarded from inconsiderate treatment. He should, if chorea seems at all imminent, be taken out of school, freed from responsibility and given for some weeks a quiet out-of-door life, with plenty of nourishing food and as much sleep as possible.

III.

It remains to consider briefly the principles of physiological development and certain pedagogical experiments in relation to the foregoing results:

Exercise is a term with a great variety of meaning. In its relation to education it is, to quote Du Bois-Reymond, ([8]) "the frequent repetition of more or less complicated action of the body with the coöperation of the mind, or of an action of the mind alone, for the purpose of being able to perform it better."

The close relation between muscle, nerve and mind makes it impossible for exercise to affect one alone. The various senses and powers of mind are all called into play to give proper adjustment to the muscles in all the range of activity from the play of the child to the work of the artist and artisan. Herein lie great possibilities of education. Motor centres make up about one-third of the brain. By motor training brain growth and mental activity are increased and new avenues are opened leading to a more intimate acquaintance with the world.

The laws of physical development should be regarded more in the construction of systems of education. Modern studies

XUM

in physiology and anthropology have confirmed the theory of Spencer, which Ross ([9]) has formulated as follows: "The nervous system of man is at first similar to that possessed by all animals which possess a nervous system, or, at any rate, all of those which are sufficiently elevated to possess a spinal cord, but, as development proceeds, the nervous system of man becomes gradually differentiated from that of an ever increasing number of lower animals, while still maintaining a general likeness to the nervous system of the higher animals up to the time of birth. This, then, constitutes the fundamental portion of the nervous system of man; but after birth the accessory portion, which, up till this time, only appears in a rudimentary condition, now undergoes progressive development. It will thus be seen that the fundamental portion is first developed, and that the superaddition of the accessory portion greatly increases the multiformity, the complexity and the specialty of the human nervous system, and that it is the latest product of its evolution." These studies indicate further that each nerve centre has its period of growth and development of function. No careful study of this sequence has yet been published. Such a study would contribute a great deal to pedagogy. The proper exercise of the organs which each centre coördinates determines its development. If the centre is forced before its time, disorders of muscle and nerve control result. It is developing the limb of the tree before the trunk is strong enough rightly to sustain it. On the other hand, if the center is not properly exercised during the periods of growth, partial arrest results. "It is when growth activity, although becoming less energetic, and when functional activity, although still feeble, is gradually gathering strength, that most may be done to make or mar it, and other centres with which it is associated. Then it is that by suitable exercise and stimulation cautiously applied, it may be brought to the highest development of which it is capable. By skillful management, this nascent period may be prolonged and a superior substratum provided for subsequent development; but by undue eagerness or neglect it may be curtailed or allowed to slip past unimproved. . . . . These facts, that cerebral centres never properly exercised do not develop, and that when once developed they are not so liable to waste on the withdrawal of their appropriate stimuli, or when they are cut off from their natural activities, strongly inculcate the importance of educating every centre at its nascent period, and the danger of postponing education till the nascent period is over." ([10]) This opinion of Crichton-Brown is sustained also by the statement of a leading student of physical

training in America. He says: "The defective exercise of any group of muscles during the growth period of its own particular centre will result not only in the dwarfing of that particular centre, but a corresponding weakness must exist in the whole mental fabric. . . . . Any system which substitutes training of the accessory neuro-muscular mechanism for that of the fundamental one, or which exacts undue work of the undeveloped accessory centres, or attempts their training out of the proper order of their ripening, is bound to contribute more toward the promotion of brain forcing than toward its prevention." ([11])

In defective classes, faults are "written large." Experiments in training them give the opportunity to see results clearly. No class of defectives is more interesting to the student of pedagogy than idiots. Physical training has been carefully tried with them with the result that forty per cent. are lifted from the condition of helplessness and sent home really productive members of society. There is in their education no other way possible than through the medium of physical training.

As a concrete case of this training, that reported by E. Seguin ([12]) in one of the last years of his life, is of great significance. When training was begun, the child, a boy of seven, was weak, walking with difficulty, unclean in habits and subject to fits of intense passion. Both hands and fingers were out of his control. He could will and execute, yet not with precision, only movements of elevation and abduction of the arm. The training of the hand for all of the various movements of which it is capable, was not possible, but the training of physiological aptitudes for them was. The value of these operations intellectually depends on their precision, unity, singleness or complexity. How to get the child to take notice of the teacher's movements, take an image of them, transmit the image, and will its execution in an accurate way and without interruption, was the problem. It was solved by giving exercises which involved the body first; these were succeeded in turn by those of the shoulder, arm, forearm, wrist, and hand, the more complex being brought in gradually and also constantly supplemented by exercise of the larger muscles. The hand was many times a day trained, either with or without the help of the senses, to act and feel, and to extend constantly with the range of its own operations that of the mind. The boy's health grew better. From being a burden, he learned to help himself, to amuse himself, to know the ordinary variations of temperature, water, food, etc.; to recognize and name about fifty things by their shape, and as many more by their texture. He acquired

XUM

a love for flowers and took pleasure in caring for them. He became able to recognize and name thirty by their fragrance. His temper was better controlled, and his habits became cleanly. He learned the typical geometrical forms, and to cut them out of paper, and to measure and arrange objects according to their length.

Reading and writing, says the report, belong to a stage much in advance of this. A store of ideas, names, qualities and actions is to be first accumulated; the child is to be taught to write his own thoughts and then to read what he has written. "Rapid harmonization and filling up of the cranium, particularly in the lower frontal region," was one of the most noticeable results of the training. The five pictures of him at different stages certainly corroborate the statement.

The idiot has great difficulty to direct both eye and mind. Seguin used the hand to present objects to the eye in their proper relations. Imitation was his starting point. Emphasis was thrown on the index finger as a leader in directing the eye. Repetition followed imitation; analogy extended the use of the finger as care or need made necessary, while it was intellectualized by adding a meaning to each of its uses. "Sometimes his hand, oftener ours," says the doctor, "makes him look for, find out, glance and gaze at, watch, survey, select and follow ideal objects."

"Throughout, the motor training of this idiot followed the laws of physiological development; and the case gives remarkable evidence of the advantages of such education."

Equally interesting, yet dealing perhaps somewhat more with the advantages in general of physiological training, is the experiment of Dr. Wey with criminals. ([13]) At the Elmira reformatory he experimented with a class of forty-three dullards, none of them mentally unsound, yet all incapable of prolonged mental exertion, and spasmodical and unsatisfactory in shop work. Twelve of the most indifferent were selected for the first experiment. All of these had been either common laborers, tramps, hostlers, or street loafers. Many had intemperate parents, one an insane, and another an epileptic, mother. They were given a special diet, were bathed three times a week. Passive exercises by a special trainer were given, as were more active ones to supplement the routine of shop work. Their mental attainments were of the lowest order. "One could neither read nor write, one could barely do either, four understood the successive steps in long division, but never could obtain the correct answer, while the balance came to grief upon the shoals of rudimentary arithmetic from notation to simple division. Their stock of

information was surprisingly small, being generally limited to a knowledge of the things they liked to eat and the work they preferred to do. Not one knew the name of the country in which he lived, its physical features, or the location of cities and states." Their ages ranged from nineteen to twenty-three. One was Irish, one Canadian, and the others American.

The physical training was of the kind used for idiots, "setting up exercises," marching, dumb-bells, etc.

School-room work was carried on in penmanship, reading, and mental arithmetic.

After five months, the experiment with this class was discontinued. All had improved physically, excepting one who died from pulmonary disease; the aimless shuffling gait had disappeared, as had much of the dull, stolid look. The average marks increased from 45.25 per cent. to 74.16 per cent. Under the system of marking, which admitted the earning of three marks during each month, in demeanor, labor, and school studies, it was possible for the eleven men to earn 594 marks in six months. In point of fact, they earned fifty-nine during the six months before the experiment. During the six months following the experiment, they earned 490. In the six months before training one man had stood $-25\frac{5}{6}$, in the six months after training he stood $+2$. Another rose from a grade of one to a grade of two and two-thirds during the same periods; yet another, from sixteen per cent. to ninety-four per cent., also during the same periods. The first named sank from three to two and one-sixth in labor, yet rose from forty-six per cent. to ninety-four per cent. in his school studies. At the time of Dr. Wey's report, something over a year later, three of the men are marked as not doing well in demeanor, four are especially commended as making an honest effort to maintain their improvement, three others have earned their release on parole.

The remainder of the forty-three, though not so stupid and dull, were treated similarly and with similar results. This training did for these men what all of the appliances in what is perhaps the most progressive reformatory in the land failed to accomplish otherwise.

IV.

Much emphasis is thrown, in ordinary discussion, on the necessity of making directions exceedingly clear, to get children to do what is required of them. The student of children has it strongly impressed on him that the child ordinarily has very slight power of sustained attention, except in the

lines of his spontaneous activities and interests, and that he cannot grasp anything in any great detail. His mental powers are very small. As Barnes has shown (14), the child thinks in units fragmentary and broken. Such logic as it has is very poor. It is interesting to note that Hodge (15) found the curve of search in carrier pigeons, dogs and man logical, while that of children was illogical in the extreme. The activities and emotions are dominant in childhood, and yet we insist on training the intellect from the first primary year. Theory and fact unite in showing that mental growth can be best helped by proceeding on lines in harmony with the law of development. The application of this law should be made especially to all phases of motor training.

A few suggestions are offered: Physical training should constantly supplement manual training. Manual training should utilize the hammer and saw before the knife. Their use may begin very early. In the tests to be reported on, as tried by other teachers, I find the twenty children, all under five years, in the Worcester Normal School kindergarten, can not only start a nail, but drive it in the wood some distance; only one out of twenty failed, and this one has defective eyes.

Scripture and Mason (16) have shown that children draw most accurately vertical and horizontal lines. From some hundreds of specimens of children's first efforts in writing, I find the great majority make their down strokes vertical, or nearly so; where not vertical, the tendency is to slant them to the right slightly. This is in harmony with the Wundt-Lamansky theory, that the eyes move more easily in vertical and horizontal directions. These facts support the movement in the schools toward vertical writing. Writing should be begun late, and then on blackboards, with a very great deal of practice with the whole arm. If it could be wholly blackboard practice for several months, better still. Pages spaced are neither helpful nor necessary. Early writing on paper should all be large, and allow for the inability of children to conform exactly to demands for great accuracy.

I cannot see what elements there are in geometrical drawing to appeal to children. They are not capable of the great degree of accuracy and adjustment of fine muscles which it requires. Many of Barnes' conclusions in regard to drawing seem to be in harmony with the law of physiological development; and he rightly concludes that the grammar of drawing should come late.

Kindergarten work generally is too fine. Too great precision, involving delicate and complex coördinations in pasting, weaving, folding, pricking and sewing, is insisted on. Occupations and games for young children should be of a

nature that will involve large muscles and movements. Certainly teachers may well give more assistance in the fine work, if they cannot see their way to make a change. They can, too, with greater frequency, permit games that are restful.

This paper can only be preliminary. Its results must be supplemented by much more extended investigations, that shall cover all grades of school life as well as home life.

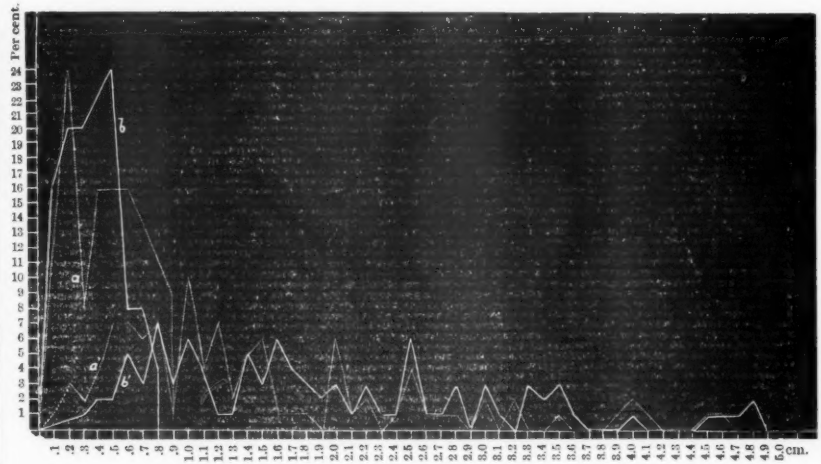
Amongst the many to whom acknowledgments are due for encouragement, helpful criticism, and suggestion, are to be mentioned especially Drs. Hall, Burnham and Sanford, also the Rev. Frs. Power and Griffin, Supt. Marble, and the Worcester Board of Education for their courtesies in permitting tests in the Worcester schools.

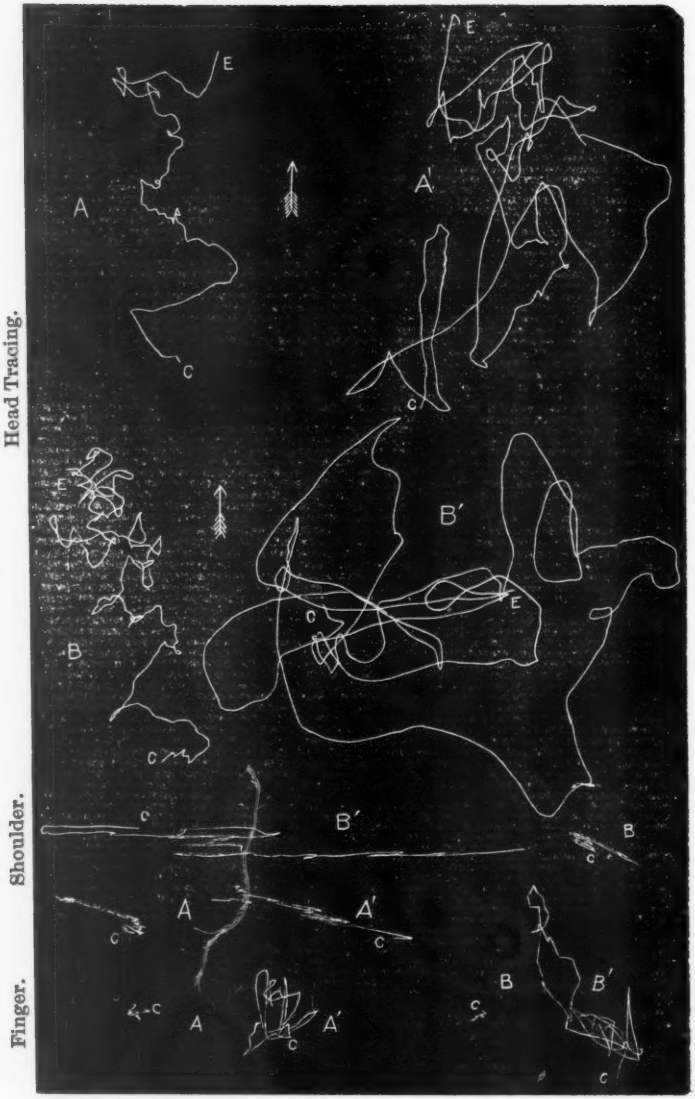
I can not forbear to express also the obligation which in common with all others who have conducted investigations at this university, I am under to its founder for the exceptional facilities which his wisdom and generosity have here afforded.

Chart showing movement of index finger in the effort to hold it still for half a minute.

a. Vertically } 25 men.
b. Laterally }

a′. Vertically } 100 children.
b′. Laterally }





SPECIMEN TRACINGS OF MEN AND CHILDREN.
a, eyes open; b, eyes closed; c, point of commencing; e, of ending.
Arrow points back.

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XUM

IMITATION IN CHILDREN.[1]

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From a great number of observations recorded by the students of the State Normal School at Worcester, Mass., in the study of children, nearly 500 have been selected which record imitative acts. A much larger number than this has been placed under two or three other rubrics, which for the purposes of the psychologist should be classed with these. If, indeed, as seems possible, imitation is the mode in which all motor impulses discharge themselves, our entire collection might serve for illustrations of its operation.

It is perhaps necessary to explain that the recorders have made no attempt to do scientific work,—that would be wholly apart from the object in view, and, in the circumstances, impossible. Observing and recording is a part of the student's training for the occupation of teaching, because it awakens an intelligent interest in children. The records amassed are an incidental product remaining after the original and main purpose has been served. Whether they are the ashes of a furnace or a deposit containing precious metal, which will repay the labor of analysis and extraction, is for the promoters of science to determine.

The present writer believes that for the management and instruction of children, something is necessary which formal science, especially in the measure possible to be acquired without years of special study, has little power to impart. This something is intelligent interest, sympathetic curiosity, a feeling of charm in the tentative acts and the crudities, the failures and the make-shifts, the easily satisfied desires, the imperious demands and the unalloyed enjoyments of the infant man. There are many cases in evidence which show a growth of this curiosity,—this feeling of charm,—as the result of making and reading such observations as form the bulk of

[1]The writer wishes to acknowledge her indebtedness for valuable aid and suggestions to Mr. E. H. Russell, Principal, Mr. T. L. Bolton of the State Normal School at Worcester, and Mr. J. H. Leuba, Fellow of Clark University.

this article, and it is for this reason that it has been judged best to print them with few comments and little attempt at arrangement. It is as unclassified instances of infantile acts and words that they have their greatest charm, and serve as the greatest stimulus to an ever up-springing interest and sympathy.

They have, moreover, a manifold character that makes classification extremely unsatisfactory. Each illustrates more than one quality or power, and hints at more than one explanation or law. They are almost as elusive and multiform as a child and have a strong tendency to make the reader pause, reflect, and perhaps finally suspend judgment, baffled, but delighted by a subtle feeling of knowledge and ignorance, kinship and strangeness.

That the imitative faculty is what makes the human being educable, that it is what has made progressive civilization possible, has always been known by philosophical educators. The energy of the child must pass from potentiality to actuality, and it does so by the path of *imitation*, because this path offers the least resistance or the greatest attraction, or perhaps because there is no other road. Whatever new and striking things he sees in the movements or condition of objects about him, provided he already has the experience necessary to apperceive this particular thing, he imitates. He lives under the influence of sensation, of emotion. "Every perception is a force pulling in a certain direction, and the child follows until he has grown enough in bulk and solidity to offer a resisting nucleus to impressions reaching him from without." But these truths must be re-discovered by each individual before they can become tributary to skill in child management. To put the reader on the road of re-discovery and application is the best ministry that remains for these records.

For the sake of form and clearness, these records of imitative acts have been separated into groups, not always easily distinguished from one another, but still each useful in illustrating a hypothesis or a truth. The first group presented is marked by an absence of the mental element, except in so far as mental action is involved in the immediate passage from the perception of a motion to the performance of it. The acts are reflex, most of them rhythmic movements. They mark no stage of growth, though they diminish in frequency as age increases, and antagonistic sensations and inhibitive powers become stronger. All adults experience the impulses which give rise to such movements and yield to them more or less.

XUM

"I watched F. and K. for ten minutes. (F. is a boy of three years, K. a girl of fifteen months.) F. sang, K. sang. F. danced, K. danced. F. stretched himself on the floor, K. did the same. F. laughed, K. laughed. F. tied a handkerchief on his head, K. found a piece of cloth and tied it on her head."

"The teacher of the infant class in Sunday school was teaching the children a song by rote. She stood before them and kept time with her head. The row of little heads before her bobbed in imitation."

"When Ella sang a motion song before the school, George went through the motions too."

"I saw a girl about six years old, standing near a railroad train, wave her hands while the conductor did so, and stop when he did."

"I stood before the baby (four months old) and whistled; she immediately puckered up her lips, but produced no sound."

"Gertrude (two years old) was sitting opposite me listening to the conversation. She made the same motions that I did, and when I put my hands on the table, she tried to do the same."

"This morning I walked to school with a boy four years old. It was raining and I told him he had better open his umbrella. He did it very willingly. It stopped raining and I told him he had better shut his umbrella. He said, 'I don't want to.' I then shut my umbrella and he did the same without saying a word."

"Ruth was angry and sat down in a chair and pouted. Margaret (twenty-three months old) sat down beside her and put out her lips as if pouting."

"I stood before the children in a first grade school and went through some gymnastic exercises, some of which were new, others familiar. I did not say a word, but the children imitated me and were quiet and attentive."

"Gertrude's sister hurt her hand, and ran to her mother to have it kissed. Gertrude (one year old) held up her hand in the same way."

"Philip was cutting with some dull scissors. He worked his mouth with the same motions that he made with the scissors. (Philip is twelve.)"

"I was beating an egg. Willie (eleven years old) rapped with a stick, keeping time with me. When told to be still he continued to make the motions of striking."

"When W. is corrected for wrong doing, she stops and looks sharply at the person correcting her. If he smiles, she smiles also; but if he looks severe, she cries."

"The school children (five, six and seven years) saw me laughing. They had no means of knowing why I laughed, but they all laughed."

Every adult can doubtless recall the exquisite pleasure he experienced in youth in impersonation. For most of us the pleasure is gone, because in part, perhaps, we are too keenly aware of the incompleteness and awkwardness of our acting, in part because the constant necessity for self-control has produced a sense of shame at yielding to any free expression of feeling. We may thrill with emotion as we read Shakespeare, but nothing would tempt us to assume the postures, make the gestures that we see with the mind's eye, or speak in the tones that we hear better in solitude than in the theatre.

The adult imagination needs, for most of us, to be stimulated by scenery, by costume, by circumstance, but two-year-old Willie puts on his father's belt, collar and cuffs, and taking a stick of wood in his hand, says, "See, mamma, I p'liceman; I's Mr. Matters!" Mabel, of the same age, dresses herself in a vest, cap, large slippers and spectacles, and on being asked who she is, makes the same reply. She happens to see herself in a looking-glass and dances and cries out for joy. She needs no audience for her drama and lets nobody into her secret until she is asked. It is enough for her that she is that extraordinary and exceptional person that occasionally passes the house. She is not "making believe" in the sense these words have for older persons; she is rather "in the state of a hypnotized person, to whom the suggestion of being some one else has been made." Her sensations are simple and unalloyed as those of mature people can rarely, if ever, be. Herbert, at three years old, sees an organ-grinder and monkey. Henceforth he needs only a fancy cap and the cover of a sewing machine to act what to him is the leading part in the drama he has seen. Not even an actor to take the inferior part is required. He sits on the machine cover and hears in imagination the tune played, then jumps down and, cap in hand, collects the imaginary cents. For him this is enough. His capacity for enjoyment is filled. He wants a cap and he places the "organ" on a lounge, evidently to have the sensation of jumping down from a height, as an aid to the illusion of being a monkey. D. took a slate under his arm and walked back and forth from one room to another crying *Sunday Telegram*. The record makes no mention of asking members of the family to buy papers. Perhaps he had never seen a paper sold; at any rate that was no part of what he had perceived, and was unnecessary to his idea of a paper boy.

A child, two years and three months old, went to the cellar door and called in different tones of voice. Whether this was a drama in which the child personated in turn the questioner and respondent, or whether the pleasure consisted in the sensation caused by the difference in tone, emphasized by the resonance from the cellar, cannot be known. That it was the latter is made probable by later reports of the same child. He is observed frequently to strike different objects, as a door and a chair, and to listen after each blow, as if noting the difference in sound. Children of four are, however, reported as acting dramas in which they take the part of three or four persons. Lulu, for instance, often plays "go to ride," and on the road asks and answers such questions as the father, mother and one or more children might ask and

XUM

answer. Two voices are all she can command, however, and these are used in question and reply, respectively, rather than as belonging to the *dramatis personæ*.

It is doubtful whether the following is an instance of personation or not. It is quite probable that in doing what the stone cutter did, Payson was no longer the child, but the strong man. "Payson is two years old. He often goes to a stone quarry, where he sees stones moved by a derrick. After hammering a block of wood for a time, he made a feint of lifting it and said:

"'Want to lift it up.'
"'Well, lift it up,' said his mother.
"'Want to lift it up like a stone.'
"'Well, lift it up like a stone.'
"'Want a derrick,' said Payson."

In his mind the stone was not to be "lifted," except by the use of a derrick.

How fluid the personality of children of this age is, and how readily they pass from one personation to another is well known. Sometimes a parent says: "My child is not the same person two minutes at a time." Not persons only are imitated, but whatever animals may have been seen or conceived from nursery tales. Most records of these impersonations, however, have the character of games and have been placed in another class of observations, under the head of play.

By the time the child is six years old, there is an observable difference in the objects and acts imitated, but there is no time when we can say: "At this age, imitations have this character; up to this age, they had such another character." Of one child continuously observed, this might be true, but this would afford no sure ground for generalization, nor is it quite clear that it would yield any important educational results.

In the period between three and six, not attempting to be precise, however, most children add greatly to their experience by becoming in larger measure their own caretakers. They play with other children in the street, and with them, as well as with their parents and older brothers and sisters, make longer excursions and visit more places of interest. The intellect has also developed and makes more complex concepts possible. One feels slightly, too, that the discipline of repression has begun to work, that there is a slight loss of naïveté and a slight presence of self-consciousness. The prison house begins already, if not to close upon the growing boy, to cast its shadow towards him. Something of motive or purpose may sometimes be discerned, perhaps,

and a growing shyness which leads the actor to become himself if he is observed, or to practice his dramas in secret. This is more marked later still.

"Harry is six. He went to a few of the Murphy (temperance) lectures. I saw him stand on the piazza and talk to a little boy that plays with him. He tossed his arms several times and I knew he was talking loud, but I could not hear him. I saw him a little later and asked him what he was playing. He said, 'I wasn't playing. I was Mr. Murphy then, and I have made Willie sign the pledge.'"

This seems a great advance on the imitation of a policeman by the child of two and a half, yet the younger child, when asked what the policeman did, approached each member of the family and, shaking him, said, "Be dood." This last act was not spontaneous and did not form a necessary part of the idea, policeman, as the gestures, loud voice and signing the pledge did in Harry's case.

This is related of a child less than four:

"Willie went to an auction room with his father. The next day he held up an old jacket and said to the servant girl, 'Take it, Lillie, for thirty cents. There it goes, for thirty cents.'"

"John stood in an empty freight car, turning the brakes round and round. Then he walked to the other end of the car, signalling with his arms, as brakemen do."

"Lawrence had a shawl strap buckled about his waist, and a poker thrust through it on one side. This, he said, was a sword. He marched round the house singing a medley of 'Yankee Doodle,' 'Marching through Georgia' and 'After the Ball.'"

"A long procession of ponies and dogs, led by a band of music, had passed. In a few minutes Charlie went into the house and brought out a flag. He said to his companion, 'Follow me on your velocipede.' The leader marched, keeping time by stamping, and led his follower through many difficult turns. At times he waved the flag, but most of the time held it firmly against his side, as drilled men sometimes hold their guns."

"J. had been to the barber's and had his hair cut. Three or four weeks after, the long hair on the dog's head was found to have been cut off. J. admitted that he cut it because he wanted to be a barber."

"Bessie was found digging in the snow with her cloak unbuttoned and flying open. I said, 'Why don't you button up your cloak?' She answered, 'Don't you see I's working like a man, and mans has their coats unbuttoned.'"

"Lizzie has a sister who is lame. Last night I saw Lizzie standing on one foot, holding in her hand the handle of an umbrella. The following dialogue was held:

I. "Lizzie, I would not stand on one foot.

L. "'I have to.'

I. "No, you haven't. You'd better stand on both your feet and then you won't fall over.

L. "'I would if somebody pushed me.'

I. "Well, nobody will push you.

XUM

L. "'I can't help it, I'm lame.'
I. "O, no, you are not, are you?
L. "'Yes, I am. I have to use a stick like Mary's.'
I. "I would not pretend that I was lame, for I wouldn't like to be lame.
L. "'Well, I am. See.'
"She walked along leaning on the cane and hopping up and down. I went my way, and Lizzie told her sister that I should always think she was lame because she made believe."

Greater experience and increased intellectual power are manifest in all these, and the sufficient reason remains the same for all: the agreeable sensation of abdicating one's own familiar personality and acting in the mental guise of another. In the last record quoted, there is a degree of sophistication unpleasant in so young a child. The "ways of the world" seem to have already roiled the limpid waters of the mountain brook of earlier childhood. Another record relates that four children with the equipment of a bunch of lilacs and a stick, marching like a procession with the seriousness that an elaborate regalia and pompous music beget, suddenly stopped on seeing a man whom they knew. What feeling overcame them can only be guessed, but some fear of acting freely and spontaneously had evidently entered in.

As children approach the tenth year the added experience and increased intellectual power become more apparent in the elaboration of imitative acts. The social element appears, and a need of accessories and properties. Three girls, who hold a funeral service for their dead cat, prepare a tombstone in advance, put on black dresses and veils belonging to their mothers, and, after an address by one of their number, sing, "Sister, thou wast mild and lovely." They are serious throughout, for the eldest is but nine years old. Two or three years later, when the sense of the ridiculous was further developed, the singing would doubtless have been interrupted by laughter. Another group of three girls, the eldest nine, imitate the preaching of a minister by repeating in turn a form of words not very unlike what they have heard at church, but add that curious element of make-believe, the charm of which is perennial and all-pervading. They arrange their blocks like settees and place spools on them to represent the congregation. For consistency's sake, or for some other reason, they arrange a pulpit and place a spool in it for the preacher, and then, disturbed by no incongruity, themselves do the preaching. How far they fancied the voice to proceed from the spool-preacher, and how little his existence interfered with their own impersonation of the preacher, is not clear, but a highly interesting state of the child mind is dis-

closed. While it requires a fitness of things up to a certain point, it contents itself with glaring omissions or mal-adjusted arrangements. The completeness which the adult mind demands, it is wholly indifferent to, yet the parent is often surprised at the scorn with which a make-shift is rejected which he thinks far better than that which the child adopts.

This has a bearing upon so-called logical processes in teaching. A logical process forced upon a creature that acts by impulses and leaps, that crosses rivers without bridges and gulfs without boats, yet is blind to plain paths, is the Chinese bandage on the foot. It means present pain and everlasting disability.

Processions attract attention, but the records in this group of observations deal chiefly with the conduct of the leader or the organizer:

"Willie enjoys being captain. He uses a stick for a baton and sings the hymns which he has heard the Salvation Army sing."

"H. and J. have cut out letters from pieces of cloth and sewed them on their jackets to indicate that they belong to the Salvation Army."

"Dexter's father is a minister. Dexter is not yet seven, yet he visits the neighbors to hold religious services. He often asks to have the piano played and one verse of a hymn sung; then taking his place a little apart, preaches. What he says can not be reported, because his speech is so imperfect that he can not be understood. One day he asked for a hat. A man's soft felt hat was offered him, which he refused. (His father wears a derby.) He was then offered a choice, and selected a woman's hat trimmed with artificial flowers. He placed this by his side when he began to preach."

On this day it seems as if a new necessity had arisen; the hat had become a necessary part of the impersonation.

After E. had been to church, he was observed to take his younger sister into a room apart and preach a sermon. The sister served for congregation, but he required as additional aids to the illusion a table and book.

"Some telegraph poles lay beside the road. A boy was sitting on one end looking at the diameter and saying, 'Sixty-five inches and sixty-nine.'"

"L. takes great delight in measuring various things. She often spends half an hour or more measuring chairs and tables with a tape measure. She writes the number of inches, but not the name of the article measured."

The acts of measuring and recording have attracted her, but they have no necessary relations or ends.

"George had a lot of figures on his slate, instead of the regular number work.

I. 'What does this mean?'

G. "'I was being book-keeper.'

I. 'Is your father a book-keeper?'

G. "'No, my brother is.'"

"Edgar embodies all the force of an electric car when he pushes a broomstick along the track and shouts, 'Get out the way, the 'lectric car's coming!'"

"A boy was taking snow from a gutter with a hoe. Several younger children were looking on. The boy said, 'I'm a city man! I get two dollars and a half a day.'"

"Henry tied a handkerchief around his head and put several hen's feathers between it and his head."

The record gives only this, but one can not doubt that a picture of an Indian had enabled him to forget himself and for a moment live another kind of life. A reminiscence states that the writer, by taking the seat from a child's express wagon and kneeling in the wagon, became a circus girl driving a chariot. The illusion was created by her position; when she knelt, only the upper half of her person was visible. Another reminiscence states that the writer at nine years used to fancy herself a trapeze performer by swinging on a pole resting on the hooks of two large pulleys in her father's barn. She had never been to a circus, but had seen pictures of trapeze performers.

Here is a piece of ready improvisation of a drama:

"An undertaker's wagon was passing along the street. Six small boys ran from the sidewalk and walked beside it, three on each side."

"Fanny, seven years old, takes the bowl of warm milk that has been given the dog, and getting down on her hands and knees drinks it by lapping."

One of the most charming reminiscences reads thus. The incident occurred when the writer was seven years old:

"I was climbing up 'the ledge' with my sister when I caught hold of a grape vine which hung over a dangerous mass of rocks and swung on it. Any one seeing me must have inferred that I was trying to 'show off,' but in reality I was playing that I was a fairy or Indian girl like Nokomis, whose story had been told me."

Reminiscences sometimes disclose the fact that the conduct of children is grossly misinterpreted by adults. The writer of the last quoted record relates that one summer day she went to a wood-lot on her father's farm to spend an hour in being a fairy. To aid her fancy she went without her dress, her neck and arms being thus uncovered. On her return she was seen by her father, who somewhat sternly ordered her into the house to put on her dress. His manner made her feel that she had behaved in a manner unbecoming a modest girl, and an hour of grief and shame followed her innocent and poetic enjoyment. The readiness to think evil of children arises in part, no doubt, from the great desire on the

part of parents that their children shall be free from faults and vices, but also in part from a forgetfulness of their own youth. A bad motive is attributed to a child simply because in an adult a bad motive would underlie a similar act, when in truth the child is utterly incapable, intellectually, of the conceptions involved.

Any evidence of æsthetic feeling is welcomed in children, but no class of feelings develops much in advance of other classes unless it is especially encouraged. The records afford little evidence one way or another on this point.

It is possible that æsthetic feeling may have furnished the impulse in the instances which follow, but it is not certain that they differ in this respect from other imitations:

"Grace came from her mother's bedroom with her face covered with toilet powder. Her mother said, 'Why, Gracie, what have you been doing?' Grace replied, 'Well, mamma, I guess I want to look pretty as well as you.'" Grace was four and a half years old.

"John (two years and four months old) arranged a row of colored cards on a box and then stood back from them while he looked at them. He called me to see them, saying, 'Pitty, pitty.' He had seen me do this same thing the day before."

The following reminiscence is clear on this point. The writer was eight at the time:

"I saw a picture of a girl lying down with her hands raised until they came at about a level with her shoulders. I thought this an exceedingly graceful attitude, and afterwards when I was running I would raise my hands."

However possible it may be that a perception of beauty or grace furnishes the motor impulse to many acts, it is certain that it is not in early life an inhibitive power. Deformed persons and lower animals, and even repulsive acts and objects, are imitated. The following are related of children less than three years old:

"Elmer had a piece of wood in his mouth which he called a smoke. He had seen the hired man smoke a pipe and heard his mother scold about the smell."

"Last week Helen saw my mother take a sliver out of her hand with a needle. Yesterday, Helen found a pin and without saying anything went up to her and began to prick her hand with the pin."

"A man who had a sore hand was staying at our house. Gertrude twisted her handkerchief around her hand and walked up and down in the orchard."

"H. arranged strips of cardboard on the floor like a pen, stepped in, got down on his hands and knees and made a grunting noise."

"Grace was at a hospital for treatment of her spine. In the same ward was a helpless idiot, who made the most dreadful faces. Grace's mother observed when she visited the hospital that Grace made the same kind of faces, and I observed after Grace came home that her face sometimes took on a close resemblance to that of the idiot."

XUM

It is probable that this was more reflex than voluntary.

The unusual appearance and conduct of the sick attract the attention of children and are imitated:

"My mother had the toothache, and to ease the pain tied a piece of flannel around her head. T. and W. got small pieces of flannel, warmed them at the stove, as they had seen my mother do, and held them up to their cheeks. Both made faces as if in pain."

"L.'s brother had a flannel band around his throat because he was hoarse. L. asked to have one around his throat and cried when it was refused him. At last, it was given him and he wore it to school."

The desire in this case looks like the well-known desire for distinction which in later life is gratified by the assurance of a physician that our disease has peculiarities, or that we require a treatment or regimen different from that of other patients.

The same observer relates that after seeing a playmate with a pretty handkerchief tied on her head, she was seized with a strong desire to wear on her head a certain admired handkerchief of her mother's. Some excuse for wearing it was necessary, and she feigned an earache. Æsthetic feeling was the stimulus to this imitation.

"Mildred spent two or three days with her sick cousin. When she came home she filled a bottle with water and said, 'This is medicine.' She rolled some bread into small balls and putting them into four boxes said, 'These are pills.' Before each meal she would say, 'I must go and take my medicine;' and eat one of the pills. One night she said, 'I don't feel very well, I guess I won't have any supper,' and taking some of the water from the medicine bottle lay down upon the lounge. When playing out of doors she interrupted her play to go into the house and take a pill. She would say, 'I don't feel very well, I must take a different kind of medicine from that I took last;' and get it from a different box. This continued for more than a week."

The feeling which prompted these repeated acts at intervals, through the long period of a week, must have been highly pleasurable. It is not related that the child asked for any sympathy or attention. She acted a part, day after day, with no aid but the taking of make-believe medicine.

In these cases the children were between four and six. This age furnishes many instances of imitation of lame or deformed persons:

"Our hired man had a deformed foot and his shoes for that foot turned up at the toe after a few days' wearing. One night when my mother took off George's shoes, she noticed that the toe of one turned up slightly and on examination found strings, pieces of cloth and cotton in it. She asked George why they were there, and he said, 'Why, Stickney's foot turns up and I want mine to.' After this my mother saw George on several occasions, when he did

not know that he was observed, take off his shoe and take great pains to make the toe stay bent. He would then watch for Stickney and follow him, imitating his halting gait."

To realize something of the change which years make in us, we have only to recall the varied and conflicting emotions which an adult experiences in observing any deformity; the shock to the æsthetic feelings or the awakening of the sense of the ridiculous, pity, sympathy, contempt, aversion, pride, self-gratulation, and, surviving underneath all, the impulse to imitation, inhibited with shame or indulged with amusement.

"The music teacher has no left hand, and in keeping time beats with his right hand on the stump of his left arm. Yesterday, when the children were beating time, I noticed that two children pulled their left sleeves over their hands and beat on their arms."

These children were seven, but a boy of five is reported as doing a similar thing.

"A man with one hand had been calling on Dannie's parents. After he had left the room Dannie was seen with his sleeve pulled down so as to completely cover his left hand, while he worked industriously with his right."

There are reports of boys carrying their arms in slings made of their handkerchiefs and pieces of string; of girls walking on improvised crutches, and walking in the street, apparently unaware of the presence of observers, with a halting and stooping gait. A young woman reports of herself that at the age of about five years she was envious of deformed persons. She remembers putting the bent end of the poker under the middle of her foot and holding the handle close to her hip, in order to walk as she had seen a man with a cork leg walk.

Another says: "When we played house I used to bend forward to appear humpbacked;" and still another states that she was so much given to walking with sticks under her arms for crutches, that her mother forbade it, only, however, to give it an additional fascination and cause it to be practiced in secret. She also walked with a limp, until her mother was afraid it would become a habit. There is probably no danger from such practices. The child is yet in too fluid a state to establish any bodily or mental habit, and new experiences and the necessity for change forbid the long continuance of any act.

The mental excitement attending a revolting act sometimes causes it to become a favorite pastime, as in the case of children of nine and twelve who had seen pigs killed. One was stretched on the floor while the other aimed a knife at her throat, and then imitated the process of ripping open the

XUM

body. This was probably an entirely simple pleasure in the repetition of a strong emotion, and foreshadowed nothing whatever in the character of the growing girl.

A desire to do things because older persons do them appears early, and often exhibits itself in amusing and charming ways. In the first of the two following cases this appears to be the motive for the act, but in the second it is less clear. The motive may have been curiosity:

"Mary (a year and eight months old) has often seen her father smoke a cigar. She holds a toothpick between her lips and smacks her lips as her father does."

"Mary (one year and eleven months old) opened her baby brother's mouth and rubbed her finger along his gums as she had seen her mother do."

In the following cases, the ages are from two and a half to three:

"Payson had seen me swing Indian clubs. Some crook-necked squashes were brought into the house. Payson was seen to swing them about, apparently in imitation of me."

"Arthur takes a book and mumbles to himself, casting his eyes across the page as if reading."

"F. L.'s father had finished the newspaper and laid it on the table. F. L. took it up and pretended to read, saying, 'cat, rat,' etc., all the time holding the paper upside down."

"Every evening N. and K. do their examples for the next day. May also does her examples. Sometimes she has a pencil and paper, sometimes she sits still without talking."

"In the children's class to-day, Mildred, who is four, sat in Miss R.'s chair whenever Miss R. left the room. In the songs she turned towards the children, clapping her hands first to one, then to another, much as Miss R. would have done."

The following instances are arranged in the order of age. J. in the first record is three and a half; the writer of the last was eleven at the time of the act. Progress is shown rather in the kind of thing desired than in any change of feeling. In all cases there is a simple reaching out for the condition of persons larger, stronger, more regarded, freer in their activities:

"J. was making marks with a pencil. He put the point in his mouth. Then he said to K., 'You must do that if you want to write; my grocery-man does it.'"

"Ernest said, 'I would like to wear pants, and then I could have a pocket up here in my vest, and I would keep a long pencil in it, and then I would turn back my coat like this (turning back his cloak) and take out my long pencils and use them; then I would stand them up in my pocket again and put back my coat.'"

"Mrs. ——— said to Phœbe's mother, 'I always take off my wrap in the cars, it makes me so uncomfortable.' Phœbe took her doll's cloak off. Her mother said, 'What are you doing that for?' 'My dollie can't bear to keep her wrap on in the cars.'"

"I took a chair away from the stove, saying, 'How the varnish smells!' Shortly afterwards Elsie pulled a chair away from the stove, saying, 'I smell the varnish!' She made two or three snuffs as she did so."

"I thought of an amusing incident and laughed to myself. Lulu said, 'What are you laughing at?' 'My thoughts,' I replied. Soon after L. gave a forced laugh. I did not notice it until it was repeated. Then I said, 'What are you laughing at?' and she replied, 'My thoughts.'"

Girls from six to eleven are frequently observed holding up their dresses when they cross a street. One observer saw eleven instances of this during one morning.

"When I was about nine, hoopskirts were fashionable. Several of us school girls wanted to wear them. We each tore a hole in the hem of her dress and through this passed the long stems of the goldenrod, enough in number to reach round the skirt. We wore them in school."

"I used to visit a lady who had kept a doll that she had when a child. I thought I was too old to play with dolls, so I put one away in a box with all its clothes to keep till I was old enough to show it to children. I kept it in the box about two weeks, and I continued to play with dolls for about two years."

The educational value of a readiness to gain new experience is obvious. It shows itself early and continues in force until it is checked by self-consciousness, timidity, shame at failure, and prudence. It is the germ of the adventurer's spirit and develops into that when habits of industry and discrimination are not formed. It should undoubtedly be encouraged and the natural checks to it should not be applied too early. The following instances of this readiness are arranged, like the preceding, in the order of age. The first is the case of a child of nine months and the last of a child of nine years. A wider range might easily have been taken, but this serves the purpose.

"I have often sung to M. Now, when I begin to sing, she opens her mouth and appears to try to sing."

"Elizabeth has often seen Harlan open the slide in the stove door and put in pieces of paper to see them burn. To-day she has done the same thing, though it required much effort and painstaking."

"James was left alone for a short time. When his grandmother entered the room where he was, she found him standing on the table which he had reached by means of a chair. The door of the clock was open and the hands of the clock had been turned."

The following, made by an unusually careful and intelligent observer, might just as well be classed somewhere else, no doubt, but it is interesting as showing how the impulse to imitate, the desire for experience and, perhaps, the wish to be like an older playmate, work together to increase the child's power of uttering words and forming sentences:

XUM

"J. repeats in some form certain words and sentences which he hears. His playmate talks a great deal; as, when going to run, he says, 'One to begin, two to show, three to make ready, and four to go.' J. attempted every part of this, though not a word was distinct. His sentence occupied the same time and was exactly like his playmate's in force. He imitated the vowel sounds where they were prominent. He repeats a statement as soon as it is made. Ordinary conversation is not repeated so much as orders or calls in any unusual pitch."

"Carpenters have been at work for three days on a neighboring house. J. spends much of his time carrying nails and a stone which he uses for a hammer from one place to another. Yesterday he drove two large nails into the doorstep."

"Willie saw his father put two of his fingers into his mouth and whistle. Soon after Willie was seen with two fingers in his mouth making a prolonged sound of *oo*. He said he was whistling."

"Winifred heard her brother learning poetry. She asked me to teach her some verses, and I did so. Later I heard her teaching her brother. She repeated a line at a time, telling him to say it after her. She held the book in her hand and pretended to read the words."

"At a festival, when the food was passed around by a waiter, several persons in the group where S. sat refused cheese by shaking the head. It was not offered to S., and he called out to the waiter, 'Pass it to me so I can shake my head!'"

"Ethel asked to call on Mrs. A. When her ring was answered she said, 'Is this Mrs. A.? I am Ethel—Mrs. W.'s little sister. I have come to call on you.'"

"K. had read the rhyme about Bob who staid out of doors in the rain. She went out in the rain and personated Bob, who is said to have been borne along with his hat flying before him."

"Gertie was cutting from a newspaper a picture of a pair of scissors. She said to me, 'I am going to send this to New York to get some truly ones, 'cause when you send these to New York they send you back the kind to use.'"

A sense of fun, a love of joking, is apparent in a few records:

"G. saw his father catch a mouse the other day. Several times a day he goes under the table, puts his hand down on the carpet, gets up, goes to the door and pretends to throw something out. He then laughs and says, 'Baby trow de mouse out.'"

"When I was four or five years old I used to imitate my mother's voice and then call my sister for the sake of fooling her."

"Alice asked me a question which I did not understand. I said, 'What did you remark?' She looked at me curiously, but said nothing. About an hour afterwards I asked her a question, at which she laughed and said, 'What did you merark? what did you merark?'"

"We children used to repeat the conversation which our father and mother carried on in the Irish language. Some of the expressions were difficult to pronounce, and this made us laugh so heartily that we were ordered to play something else. It was so amusing to us that we smothered our laughter with our handkerchiefs and aprons, that we might be allowed to continue it."

It is not uncommon for a child to imitate a sound or an act when he is otherwise unable to express his thought:

"When A. sees a burning match he asks if he can 'fur' it out. The word 'fur' sounds like the noise he makes when he blows it out."

"Harlan was afraid his little sister would touch his clay spheres and cylinders while he was at the other side of the room. He said to me, 'You keep saying "no, no, no," to the baby till I come back.'"

"When Willie saw me after his first day at school, he said, 'We have to do awful hard things at school. The teacher has a whole pile of shells and marbles and she makes us say "two shells and two shells," and we have to stand like this.' He then stood up straight with his feet at right angles, imitating the 'position' of the physical exercise."

"In the reading class was the sentence, 'The hen laid an egg.' Fannie stood up and said, 'Teacher, our cow laid a little cow and he walks awful funny.' Then she got down on the floor and showed the way the little calf ran about."

"I hid a pencil which O. wanted, and when he did not find it he said, 'All gone!' swaying his right hand from left to right three times very gracefully."

In the following cases, which are evidently voluntary imitations, there is this in common with reflex acts, — there is no regard to the object or result of the act. Thus in the first case, Mary does not want the thread, but only to perform the unusual act of drawing it from the spool on the machine. In the second, Mabel does not care for the sound of the tuning-fork; she enjoys the movements of using it, or more likely is acting a drama:

"Katie, wanting some thread, pulled it from a spool that was on the sewing-machine. In a few minutes Mary did the same thing."

"Mabel had seen me use a tuning-fork. I have noticed her striking the table with a pencil, clothes-pin, or her finger, and then putting it to her ear to get the sound and trying to sing *do*."

"B.'s mother dips the comb in the wash-basin when she combs B.'s hair. If B. is given a comb she strikes it on the edge of the basin before putting it to her head."

"I have been told that when I was sixteen months old I used to try to comb my hair, and always stood where my mother stood to comb hers, although the mirror was so high that I could not see into it at all."

"Katie saw her aunt dropping eye-water into her eyes through a quill. A few days later Katie was seen standing before the glass with a lead pencil stuck in her eye, and pretending she had a bottle in her hand."

"M. likes to sew. She asks for a needle and thread, but does not want the thread knotted. She will sit near a person sewing for a long time, drawing the thread through the cloth, seeming quite content, though she makes no stitches."

"Helen received a tub, washboard and clothes-horse at Christmas. Every day for more than a week she has gone through the motions of washing, using no water. She hangs out the clothes, which consist of a handkerchief, three or four worn kid gloves and a few doll's things. She irons them with a cold flat-iron and hangs them on the clothes-horse."

XUM

These children were less than three years old, except the last, who was just three. The following are similar acts of older children, the oldest being eight:

"I made a noise by holding a piece of grass between my hands and blowing on it. Frank heard me and immediately picked a piece of grass and went through the same motions, but could not make a sound. He seemed contented and walked about on the grass for five or ten minutes, going through with the motions all the time."

"'Will you sing for me, Minnie?' 'Yes, in a minute.' She struck her finger on the back of a chair, held it up to her ear and hummed. This was not the right pitch; she struck her finger again. This time she was satisfied and began to sing."

"J. took a clothes-brush and rubbed it on the wall. He said he was papering."

"When Ida's mother and sister wish to say something not intended for Ida's ears, they spell the words. Ida precedes her sentences by a few letters she happens to know. I heard her say, 'b-o-s, mamma, tell Mamie to give me more candy.'"

"The teacher has a spindle on her desk to keep papers or notes on. J. keeps a pin point uppermost on the outside of her desk and sticks on it little squares of waste paper."

These records might all perhaps be placed in some other class, but they, nevertheless, illustrate the characteristic mentioned. A few more will be added, chiefly because they are interesting:

"A. is fifteen months old. When he is placed upon a pillow on the floor, he gets off the pillow, takes his foot in his hand and puts it on the pillow. He then covers it up and hushes it to sleep, as his mother does him."

"Last evening I watched Gertie, who is nine years old, making examples in arithmetic. This is one of them: 'If a man had a tree with sixty apples on it, how much would there be on a tree with fifty apples?' The answer was $10."

"This is another: 'A man had a farm with fifty ear. If he sold them at $5 a ears, how much? Ans. $255.'"

"I was helping a little girl in the children's class to put on her cloak. She said, 'Say, what do you suppose Santa Claus is going to bring me?' Before I had time to answer she went on, 'Well, he's going to bring me a pony pump.' A little girl standing beside us said, 'He brings Sunday dishes and every-day dishes.' 'Yes,' said the first girl, 'and he's going to bring me Sunday dishes and every-day dishes.' 'Yes,' said the second, 'and he's going to bring Mr. B. (the principal of the school) a set of Sunday dishes and every-day dishes.'"

During the reading and arrangement of these observations the writer has been impressed with the necessity of giving more freedom to the promptings of instinct in children, of permitting them to take their own methods of doing and acquiring. The spontaneous activities of children are educative of the mind as well as imperative to the body, and yield not only experience,—universally admitted to be the best

teacher, — but the invaluable power of self-help and self-reliance. In Mr. Ruskin's summary of the blessings and evils of his early training, he laments as the chief evil that his powers of independent action (not thought) were left entirely undeveloped, because the bridle and blinkers were never taken off. "Children," he says, "should have their times of being off duty, like soldiers; and when once the obedience, if required, is certain, the little creature should be very early put for periods of practice in complete command of itself; set on the barebacked horse of its own will and left to break it by its own strength."

Children are so ignorant of harm and so little able to protect themselves that few adults can restrain their fear of coming evil or stifle their desire to extend protection sufficiently to give the child even a measurable degree of the freedom he requires. Besides this, is the additional difficulty that so many of the child's activities are mischievous in their effects that it is almost impossible to avoid a habit of constant watchfulness, and an attitude of restraint. A child who has seen a house painter at work sees no harm in dipping a clothes-brush in water and rubbing it on a papered wall; nor, when he has seen bread placed in the oven, in putting his shoe in the same place. Still, freedom is my plea. Not half so many bodily dangers beset the child as we fear, not half so many of his imitations are mischievous as we think; while the courage to attempt new things, the discrimination between what can be done and what can not, are qualities so valuable that much may be risked in their behalf. Moreover, the child is not only ignorant of the results of his acts, he performs them, as we have seen, without any reference to objective consequences. In seeking simply to enjoy a sensation, and acting without the checks which knowledge, reflection and altruism make operative with the adult, he is developing a personal power, growing as an individual, and gaining solidity and stability. He must live for himself until he gains a power of resistance and intelligent choice.

For the child in school a still stronger plea is needed, for here custom and tradition have piled up obstacles to freedom to an almost insurmountable height. The teacher who will take advantage of the instinct of imitation, as an artisan takes advantage of the fluidity of water, or the hardness of iron to effect his purpose, must create an atmosphere of freedom, in which the instinct can have free play. Repression, prohibition and compulsion must have the smallest place, and encouragement, permission and liberty to choose must prevail.

XUM

ANTHROPOLOGY IN UNIVERSITIES AND COLLEGES.

By A. F. Chamberlain, Ph. D.,
Lecturer on Anthropology in Clark University, Worcester, Mass.

Anthropology, which has been well defined as "the study of man in accordance with the laws of inductive research," offers in its various sub-departments a wide and useful series of academical studies. On its physical side it deals with the origin, development and history of the physical characteristics of man, descriptive, experimental, comparative; the ethnological branch treats of sociology, institutions, the arts, religion, mythology, folk-lore, language, in their birth, growth and decay; its ethnographical aspect is concerned with questions of human geography, the origin, migrations, differentiations of races; its archæological division deals with matters connected with the earliest appearance of man upon the globe and the development of the arts and society in the ages which have preceded the historical period properly so-called.

Naturally enough, the higher institutions of learning have approached the study of anthropology from many different directions, according as its kinship with geology, natural history, philology, philosophy, psychology and political science have been most inviting. The first department of anthropology to receive anything like general recognition in colleges and universities was "comparative philology," which is now so firmly established that some have almost forgotten its distinctly anthropological character. Following closely upon comparative philology to-day is "sociology," which bids fair to establish itself as firmly in the next few years, to judge from the favor it has met at the hands of our great universities. Not alone have these and other departments of anthropology been recognized in academic curricula, but the general subject of anthropology has found a welcome in many of the leading colleges and universities with an increasing list of instructors, and a constant development of horizon and affiliations. The brief notes which follow are intended to exhibit in the tersest form possible the present state of anthropological study in the higher institutions of learning in Europe and America, and to indicate how great has been the interest shown in, and the attention devoted to, this subject in very recent years.

ACADEMICAL STUDY OF ANTHROPOLOGY (EXCLUSIVE OF COMPARATIVE PHILOLOGY).

ITALY.

University of Naples. G. de Luca, professor of Geography and Ethnography; G. Nicolucci, professor of Anthropology.

University of Rome. G. Sergi, professor of Anthropology; A. Moschen, private-docent in Anthropology.

University of Genoa. V. Grossi, private-docent in American Ethnology.

University of Modena. P. Riccardi, private-docent in Anthropology.

High School, Florence. P. Mantegazza, professor of Anthropology; E. Regalia, private-docent in Anthropology; J. Danielli, private-docent in Anthropology.

Royal Scientific and Literary Academy, Milan. E. Savio, professor (extraord.) of Geography and Ethnography; T. Vignoli, private-docent in Anthropology and Comparative Psychology.

Royal Institute for the Higher Education of Female Teachers, Rome. B. Zevi, professor (extraord.) of Hygiene and Anthropology.

At the University of Turin, Cesare Lombroso, the distinguished criminal-anthropologist, is professor of judicial medicine.

AUSTRO-HUNGARY.

University of Buda-Pest. Dr. A. von Török, professor of Anthropology and Ethnography.

University (Bohemian) of Prague. L. Niederle, private-docent in Anthropology and Prehistoric Archæology.

SWITZERLAND.

University of Bern. H. Balmer, private-docent in Anthropology and Geography.

High School, Zürich. J. Heierli, private-docent in Anthropology.

Academy of Neuchatel. C. Knapp, professor of Geography and Ethnography.

University of Freiburg. A. Gottlob, private-docent in the History of Civilization.

University of Lausanne. P. Marlfer, private-docent in the History of Civilization.

University of Geneva. L. Wuarin, professor of Sociology.

XUM

FRANCE.

École d'Anthropologie, Paris. The staff of this great institution for anthropological study and research is as follows: M. Duval, Anthropogeny and Embryology; M. Mahoudeau, Zoölogical Anthropology; M. Manouvrier, Physiological Anthropology; M. Laborde, Biological Anthropology; M. A. de Mortillet, Comparative Ethnography; M. F. A. Schrader, Anthropological Geography; M. Bordier, Medical Geography; M. Hervé, Ethnology; M. Letourneau, History of Civilization; M. A. Lefèvre, Ethnography and Linguistics; M. G. de Mortillet, Prehistoric Anthropology; Director, M. A. Hovelacque.

Muséum d'Histoire Naturelle, Paris. Dr. E. T. Hamy, professor of Anthropology; M. H. Verneau, assistant in Anthropology.

École Pratique, Paris. (Natural History Section), P. Topinard, adjunct-director, also of the Anthropological Laboratory of the Medical Faculty in the Sorbonne.

École Pratique, Paris. (Section of Religious Science), M. L. de Rosny, adjunct-director and professor of the Religions of the far east and of the American Indians.

BELGIUM.

University of Brussels. M. Houzé, professor of Anthropology; M. E. Reclus (the ethnographer) is professor of Geography; Count E. Goblet d'Alviella, professor (extraord.) of the History of Religions.

HOLLAND.

University of Leiden. J. J. M. de Groot, professor of Ethnography; L. Serrurier, lecturer on Japanese Language and Ethnography.

PORTUGAL.

University of Coimbra. B. L. M. Guimaraes, professor of Anthropology and Palæontology.

ENGLAND.

University of Oxford. Dr. E. B. Tylor, reader in Anthropology.

Many lectures of an anthropological nature are delivered on special foundations by such scientists as Max Müller, Dr. Beddoe, Dr. Macalister, Prof. Rhys, Andrew Lang, etc.; the Gifford lectures, the Hibbert lectures, the Rhind lectures are often of this character.

GERMANY.

University of Berlin. Dr. A. Bastian, professor (extraord.) of Ethnology—the apostle of modern ethnological philosophy; Dr. F. von Luschan, docent in Anthropology.

University of Leipzig. Dr. Emil Schmidt, professor (extraord.) of Anthropology and Ethnography; Dr. Ratzel (the ethnographer) is professor of Geography.

University of München. Dr. Johannes Ranke, professor of Anthropology and General Natural History.

University of Marburg. Dr. K. von den Steinen, professor (extraord.) of Ethnology (Völkerkunde).

Technical High School, Stuttgart. Dr. K. B. Klunzinger, professor of Anthropology and Hygiene.

RUSSIA.

University of Helsingfors. E. A. Westermarck, docent in Sociology; A. O. Heikel, docent in Finnish Ethnography.

University of Kasan. P. J. Krotow, professor (extraord.) of Geography and Ethnography.

University of Moscow. D. Nikolajew, professor of Geography and Anthropology.

University of St. Petersburg. E. J. Petri, professor (extraord.) of Geography and Ethnography.

University of Dorpat. R. Mucke, professor of Geography, Ethnography and Statistics.

BULGARIA.

High School, Sophia. D. Matov, professor of Slavic Ethnography; J. D. Sismanov, Primitive Culture.

JAPAN.

University of Tōkyō. M. Toyama, professor of Sociology.

AMERICA.

Anthropology has gradually won recognition in our highest educational institutions. Perhaps the first to accord it a place in the curriculum, and at the same time to provide instruction by a competent professor, was the University of Toronto, where, in 1884, Dr. (afterwards Sir) Daniel Wilson was appointed to the chair of history and ethnology, a position which he filled until his death in 1892. Ethnology (or, as were better said, anthropology) was long one of the subdepartments of the honor group of studies in modern languages; it has since been transferred to the honor depart-

XUM

ment of history, now under the charge of Rev. G. M. Wrong as lecturer. The course in "Ancient and Modern Ethnology," delivered to students of the fourth year, includes: "Ethnology as a factor in ancient and modern history. The science of language. Philological classification of races. Anthropology. Succession of races in different countries in Europe. Physical evidence of diversity of race. Philological evidence. The prehistoric, unhistoric, and historic races. The lectures are illustrated by means of maps, typical skulls of different races, primitive implements, etc." This outline of study is historically interesting, as it is probably the first definite non-optional prescription of anthropology in an American university. The influence of the study of this subject in Toronto upon anthropological and ethnological investigation in the Dominion of Canada has been great, and not a few of those who have devoted themselves to the science of man, owe their first inspirations to the author of "Prehistoric Man."

At present an effort is being made by the professor of the history of philosophy to secure the establishing of a course in "Applied Ethics" (sociology; criminology).

The first university to distinctly recognize anthropology as a department of graduate study leading to the degree of Doctor of Philosophy, was Clark University, Worcester, Mass., where, in 1892, the first degree conferred in anthropology in America was awarded. The first official announcement of the University, published in May, 1890, included, under the work in the department of psychology, the following subjects: "The Psychology of Language; Myth, Custom and Belief Anthropologically Considered." With the opening of the academic year, anthropology was established as a sub-department of psychology, with laboratory, library equipment and other facilities for original investigation and research. In 1889 Dr. Franz Boas was appointed docent in anthropology, and remained in that position until June, 1892, when he became head of the sub-department of physical anthropology at the World's Columbian Exposition, delivering the following courses of lectures: 1890-1891, (a) Physical Anthropology, (b) Anthropology of Africa; 1892, Application of Statistics to Anthropology.

In June, 1890, Mr. A. F. Chamberlain, then fellow in modern languages in University College, Toronto, and a student under the late Sir Daniel Wilson, was appointed to the first fellowship created in anthropology in the University. In the spring term of 1891, Mr. Chamberlain gave a brief course of lectures on "The Relation of Linguistics to Psychology and Anthropology." In November, 1890, Dr. G. M. West was appointed fellow, and in 1891 assistant in anthro-

pology. Dr. West, who in 1892 became associated with Dr. Boas at Chicago, delivered, in the spring of 1892, a course of lectures on "The Growth of School Children," based upon results obtained from the investigations in the public and private schools of Worcester, begun and continued under the direction of Dr. Boas.

In June, 1892, Dr. A. F. Chamberlain was appointed lecturer in anthropology, and has delivered courses of lectures as follows: 1892-3 (twice a week), Mythology of the North American Indians. 1893-4, The Child in Folk-thought (once a week); Anthropology, General (once a week). The lectures have been given with special reference to their bearings on psychology and pedagogy.

During the years 1889-1891, Dr. Arthur McDonald, now specialist in education as related to the abnormal and weakling classes, of the U. S. Bureau of Education, was docent in applied ethics (criminology), and in lectures and seminaries treated of "The Psychological, Anthropological and Sociological Conditions of Crime, and other Abnormal States."

Other universities and colleges have professors and instructors in anthropology as follows:

University of Chicago. Frederick Starr, assistant professor of Anthropology (appointed 1891); Dr. G. M. West, docent in Anthropology (appointed 1893). The courses in anthropology include ethnology, applied anthropology, prehistoric anthropology, laboratory work, criminology, and the various aspects of sociology, the department of political and social science offering instruction in the development of civilization, the principles and facts of sociology, political geography, statistics, etc. The historical and comparative study of religion is also well provided for.

Harvard University. F. W. Putnam, professor of American Archæology and Ethnology. The graduate department offers a "course of special training in archæology and ethnology, requiring three years for its completion," and consisting of work in the laboratory and museum, lectures, field-work and exploration, with (in the third year) special research. In the department of anatomy, physiology and physical training, Dr. Sargent gives a course on "Anthropometry, Measurements and Tests of the Body, Effects of Age, Nurture and Physical Training"— a half-course three times a week (first half-year). In the department of philosophy, Prof. Everett offers a half-course, two hours a week, on "Comparative Religion," and in "Economics," Prof. Cummings, a course on "The Principles of Sociology and the Development of the State." In connection with the university are the following foundations:

XUM

The Shaw fellowship of $1,050 per annum, established in 1890, for "work and research relating to the Indian race of America, or other ethnological and archæological investigations;" and the Hemenway fellowship of $500 per annum, founded in 1890, "to be held by a student of Harvard University pursuing the study of American archæology and ethnology."

University of Pennsylvania. Dr. D. G. Brinton, professor of American Archæology and Linguistics. Besides the special subjects indicated in the title of the chair which he fills, Dr. Brinton lectures in the philosophic course on "The Elements and Evolution of Primitive Religion," and in the general philological course on "The Elements of Primitive Culture." The university, in its department of philosophy, provides amply for instruction in the "History of Religion," in lectures by Professors von Hilprecht, Jastrow and Easton.

Columbia College. Dr. W. Z. Ripley, lecturer on Physical Geography and Anthropology; F. H. Giddings, lecturer on Sociology. The subjects of lectures include: Sociology and statistical science in their anthropological aspects, ethnology, systematic study of general sociology. The first half of the work is anthropological and ethnological, the second half demographical, the subject being dealt with in relation to political and social science.

Bucknell University. W. E. Martin, instructor in Logic and Anthropology. There is a course of lectures on anthropology of one hour a week offered in the third term to seniors in the department of mental and moral science.

Columbian University (Washington, D. C.). Prof. O. T. Mason, lecturer in Anthropology.

The following universities and colleges, while not possessing a special professor or instructor, have given anthropology a place in their courses of study, assigning the task of instruction to those having charge of cognate subjects:

Yale University. Prof. Sumner (Political Science) offers to seniors and graduates a course of lectures (two hours per week, both terms) on "Anthropology," with Ranke's "Der Mensch" as text-book; also, in "Social Science" a similar course on "Anthropology and Ethnology, the Origin of Civilization and the Development of Institutions," intended as an introduction to the study of social science, and based upon Quatrefages' "Histoire des Races Humaines," and Lippert's "Kulturgeschichte." In the graduate course, Prof. Ladd (Psychology and Philosophy) lectures on the "Philosophy of Religion," two hours a week, both terms, and also offers a course on "Philosophic Anthropology." Dr. Fairbanks offers courses on "Comparative Religion," "History of Re-

ligion," "Philosophy of Religion," "History of Social Ethics, etc." Prof. Brewer offers a course on "Physical Geography and its Relation to Political History."

Leland Stanford, Jr., University. Assistant Professor F. C. Clark offers a course of one hour a week throughout the year on "Anthropology and Ethnology," of which in 1892-3 the second semester was devoted to "American Prehistoric Sociology;" Assoc. Prof. Griggs, a course of two hours a week on the "Evolution of Ethics;" Assoc. Prof. Warner, a course of two hours a week on "Social Pathology" (first semester) and "Charities and Corrections" (second semester), and Prof. Ross, courses of two hours a week on "Dynamic Sociology" (second semester) and "Statical Sociology" (second semester).

Western Reserve University. In the groups of history and political science and philosophy, Prof. Curtis presents as an elective to the senior year a course of lectures (three hours a week, first half-year) on "Anthropology," embracing the main problems and bearings of the science, and intended as "a foundation for the intelligent study of philosophy and history." The text-books are Morgan's "Ancient Society," Quatrefages' "Human Species," Tylor's "Anthropology," Pritchard's "Natural History of Man," Darwin's "Descent of Man," and Brinton's "Races and Peoples." In the graduate department a similar course of lectures is offered, together with another course (three hours per week, second term) on "Sociology." Pres. Thwing also delivers a course of lectures (one hour a week) on "The Family as a Historical and Social Institution."

Indiana University. Prof. J. R. Commons delivers, during the first and second terms (daily), a course of lectures on "Sociology" and the "Anthropological Questions relating to Culture and Civilization;" Prof. Ross lectures on "Sociology," one term (three hours a week); on "Statistics" one term (once a week); and on "Social Problems," daily; Prof. Fellows (European History) lectures during the third term once a week on "Kulturgeschichte" (intellectual and moral development).

Oberlin College. Prof. Black delivers as an elective for juniors, seniors and theological students, during the fall term, a course of lectures (39 hours) on "Historical Sociology," intended as "an introduction to courses on practical sociology," and based upon Tylor's "Anthropology" and Fustel de Coulange's "Ancient City." In the winter term Miss Johnston presents a course (fifty-eight hours) of lectures on the "History of Civilization," based upon the work of Morris.

Dartmouth College. Prof Wells (Economics and Social Science) offers as an elective to the senior year a course of lectures (twenty-four exercises, two hours weekly, during the second term) on "Social Science, Anthropological, Historical and Comparative Study of Man in Societies," with Tylor as text-book.

Bowdoin College. As an elective to the senior year a course of lectures (four hours a week) is offered on "Anthropology and Historical Sociology."

Wisconsin University. Prof. Jastrow (Experimental and Comparative Psychology) offers during the spring term a course of lectures (twice a week) on "Anthropological Psychology." During 1892-3 Mr. F. W. Vines was a special lecturer on "Criminology."

Brown University. Prof. Packard (Zoölogy and Geology) offers as an elective for seniors and graduates during the third term a general course of three hours a week on "Anthropology (physical history of man, principles of ethnology, ethnography and prehistoric archæology)," treating of the following subjects: "Man as related to the Primates; Races; Prehistoric Races and the Antiquity of Man; Origin of Man; Language and Race, Writing; Arts of Life, Amusements; Primitive Culture, including Folk-Lore, Myths and Primitive Religious Cults; Primitive Society." Prof. Wilson (Political and Social Science) offers during the first term as an elective for juniors and seniors a course of lectures (three hours) on the "Principles of Sociology" and the "Development of Primitive Civilization," and during the second term a similar course on "Modern Social Problems, Charity, Penology, Criminology, History of Punishment, Marriage, Divorce." Courses on "Modern Social Problems" and "Social Philosophy" are also offered. Dr. Forbush, instructor in comparative religion, offers as an elective in the second term a course of lectures (three hours) on "Comparative Religion." In "Sociology" the aim is to give "a continuous and systematic course."

Illinois University. Prof. Rolfe (Geology) offers a "half study" (lectures, readings, recitations), during the fall term in "Anthropology," based upon Tylor, and covering facts and theories relating to the origin of man, comparative study of races, development from savage to enlightened stage, etc. The "Origin and Progress of Man" is also the subject of study, with Guizot as text-book.

College of the City of New York. In the natural history department a course of lectures (one hour per week) on "Anthropology" is offered to juniors.

Johns Hopkins University. Prof. Bloomfield (Comparative Philology) delivers, preliminary to the course in comparative philology, a series of twelve lectures on "The Ethnology of the Ancient Indo-European People" in the historical seminary, in which is discussed the relation of philology and ethnology to history. In the department of history and politics, the lectures of President Gilman, Prof. Adams, Dr. Warner, Dr. Gould touch upon various aspects of anthropological sociology, as the theses of the graduates show.

Massachusetts Institute of Technology. In the third year a course on "Anthropology" is offered in connection with "Social Science and History" — the general subject, origin and history of the family, church, state and other institutions of society, primitive political and religious questions, etc. A course in "Statistics" is also offered in the first term.

Vassar College. In connection with the work in "Social Science," Prof. Mills (economics) offers to the seniors in the second semester a course of lectures on "Criminal Anthropology."

Cornell University. Asst. Prof. Wilcox offers a course (two hours) on "Social Science" and "Practical Ethics," with an introduction on "Anthropology." Similar courses are given in "Sociology" and "Statistics." Prof. Jenks is professor of political economy and civil and social institutions, lectures on "Social and Race Problems," "Statistics," etc.; and Prof. Tyler of "The History and Philosophy of Religion and Christian Ethics." In the last department courses of lectures are given on the "History of Religions," "Primitive Religions and the Origin of the Religious Concept."

Lake Forest University. The department of political and social science and the graduate course in "Philosophy" offer courses of lectures in "Sociology" as follows: Sociology: I. Village Community,—three hours a week, first semester; II. Kinship and Marriage,—two hours a week, first semester; III. Principles of Sociology,— daily, second semester; IV. Theory of the State,—three hours a week, first semester; V. Social Theory,— four hours a week, first semester; VI. Science of Law, — two hours a week, second semester; VII. Ethics,—three hours a week, second semester. The graduate course has the "Principles of Sociology" as major, with "Marriage and Kinship," "Data of Ethics," "Theory of the State" and "Social Science" as subordinate subjects.

University of Vermont (*State Agricultural College*). Prof. Emerson (History) offers an advanced elective course of two hours per week in the second half year on "Sociology," "Origin and Development of Social Institutions."

University of Kansas. In the department of history and sociology Prof. Blackmar offers the following courses of

lectures: "History of Institutions," every day, first term; "Sociology," every day, second term; "Status of Woman," every day, second term; "Practical Sociology," every day, first term; "Dynamic and Descriptive Sociology," every day, second term.

Tufts College. Prof. Knight offers courses of lectures on the "Comparative History of Religions and Study of their Civilizations," three hours, first term; and Prof. Tousey, a course of four hours a week during the second term, on "Practical Ethics," "Contemporary Problems of Education," "Charities," "Temperance," "Socialism," etc.

University of Minnesota. Besides a course on the "Philosophy of Religion" (text-book, Caird's "Evolution of Religion"), lectures are given on "Social Ethics," the "Principles, Elements and History of Sociology," "Crime, Pauperism, Prison Reform, etc.," in connection with the departments of philosophy and political science.

University of Michigan. In 1891-92 a beginning was made in anthropology by the institution of a course in museum laboratory work in American archæology. The intention is to widen out, as opportunity offers, into other branches of anthropological science.

Ohio State University. A department of archæology under the curatorship of Warren K. Moorehead, editor of the *Archæologist*, has been recently established.

The following colleges and universities offer courses in the "History of Civilization": Rutgers, Union (anthropological work also begun), Hampden Sidney, Denison, Berea, Ohio, Wesleyan (Philosophy of History, with Morris as text-book), Dickinson, Lombard, Marietta, Carthage, Western Michigan, North Dakota. The field, of course, is restricted and the text-book in most cases is Guizot, a work which has done good service in laying the foundations for anthropological and sociological studies in these institutions.

Certain other institutions, like Princeton and the University of Missouri, have devoted considerable attention to archæology (chiefly classical) and the history of art, thereby laying the foundations of courses in comparative æsthetics and historical technology.

At Chicago, Yale, Harvard, Wellesley, Dickinson, Swarthmore, Leland Stanford, etc., much importance is placed upon physical culture, and at more than one of these colleges and universities excellent work in practical anthropometry is being done.

The general widening of academic thought in respect to anthropology and its various subdivisions is seen in the successors and rivals of "Comparative Philology," the

pioneer of anthropological study in most of our colleges, "Comparative Sociology," "Comparative Religion," "Comparative Æsthetics," "Comparative Politics" and the like, which are now to be found inscribed among the courses outlined in the curricula. The brief bibliography of recent literature exhibits the growth and development of anthropology in the last few years.

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XUM

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THE LOVE OF NATURE AS THE ROOT OF TEACHING AND LEARNING THE SCIENCES.

By Wm A. Hoyt, Student in Pedagogy, Clark University.

At a meeting of college representatives last November, Professor Dolbear of Tufts presented a paper, in which he declared: "The results of the teaching of science in schools of all kinds have been a great disappointment to the friends and advocates of science-teaching. This is as true abroad as at home. The matter was discussed at length at the last meeting of the British Association." Superintendent Seaver's report, of about three years ago, is of the same tenor. He says[1] that Boston schools, in respect to nature-studies, are "gravely deficient, both in method and in results." Notwithstanding the work of Miss Crocker, the Normal School, and the "teachers' school of science," he says, "it remains a fact that the sciences—particularly the natural history sciences—have very little lodgment in our current school work," though provision has been made for them in the course of study for several years. "And this statement must be made more than a generation after the great Agassiz began his work of promoting an interest in the study of natural history among all people, all schools and all teachers." After viewing this as but the typical condition of cities generally, with reasons for it, the editor of the *Educational Review* says: "It is not surprising that the teaching of elementary science in public schools should be a comparative failure."

Towards improvement we should recognize the efforts of the American Society of Naturalists, whose committee, under the chairmanship of Samuel F. Clarke, made a report on "Science in the Schools," in 1888. William North Rice, likewise a member of the committee, has been active and earnest in urging the importance of natural history studies. Others, too, ought to be mentioned, whose efforts are worthy

[1] *Educational Review*, October, 1891.

XUM

the highest praise. Still, as yet, little has been accomplished. What is the condition confronting us? Astronomy, which was one of the first of the sciences to be introduced into the course of our American colleges, has either lost its standing or has fallen out altogether. Even Harvard offers her students no regular course in general astronomy. Geology, save in special lines, has made either no advance or one altogether out of proportion to the progress of higher and intermediate education. Zoölogy and botany, pursued by so many amateurs all over the older parts of the country, have not *satisfied* their friends. Old-fashioned star-gazing and tracing of constellations, as in Burritt's map of the heavens, or as in the days of Albert Hopkins, whose first college observatory in this country was covered over with Scriptural passages; geology, botany and zoölogy, animated by the Wednesday and Saturday Excursion, with equipment of hammer, collecting case, and net for capturing butterflies and insects, when students vied with one another in securing the largest and best collection,—the days of such open-air and naïve means of obtaining knowledge seem indeed passing. Our pupils too often make their first school acquaintance with nature through the microscope and are bewildered in the mazes of histological technique; they begin their knowledge of rock first by means of thin sections and the subtleties of petrology or crystallography; and approach the new astronomy through some complicated instrument or device like the spectroscope.

In Germany the Real school has nowhere held its own with the Gymnasium, especially in the last years of the course. In this country it must be said, at the very least, that the progress and development of science in elementary and secondary schools and colleges for the past ten years have failed to satisfy its advocates.

The causes of this condition are manifold. One is found in the fact that the practical side of scientific teaching has been so unduly exalted and its educational value so little regarded. Chemistry and electrical science have the highest market value, and have grown and flourished like green bay trees. On the other hand, astronomy holds out slight pecuniary inducements; the same is true of botany and zoölogy. Even geology offers careers less tempting than electricity. A young man with limited knowledge of the bread sciences can find a position open to him; but he must continue long his study and encounter more or less severe competition for the rarer vacancy in the culture sciences like astronomy. Hence the American propensity to rank sciences according to the dollars, dimes, and students they bring, has not only been at

the sacrifice of the scientific spirit where it is strongest, but has substituted a mean and shallow commercialism for the deep and primordial love of nature on which alone science rests and in which it has its only really educational value and justification.

Another cause is the decline of country life. Children used to live under the influence of forest, field, pasture, lake and stream; much of their lives was thus spent. But the city child is with his kind, and rarely alone with nature. A large proportion of modern city children, on entering school, according to careful statistical observations of Pres. Hall and others, have never seen a sunrise, sunset, or rainbow; have no idea where potatoes and most common vegetables come from; have never seen the most common birds, as robin, bluebird, and crow; know nothing of growing buttercup, clover, corn, dandelion, roses, grapes, strawberries; never have seen a forest, squirrel, bee, living fish, or even a sheep; do not know the use of plough, spade, or hoe; are ignorant of the origin of butter, leathern goods, flour, woolen fabrics, wooden objects — the data with which all their primers are concerned. To introduce city children, who never knew their Mother Nature, and who, therefore, know not what it is to love her, to any department of science through the labyrinth of laboratory methods and technical nomenclature, may well turn indifference into hate. Their experience suggests that of Whitman, when he writes:

"When I heard the learn'd astronomer,
When the proofs, the figures, were ranged in columns before me,
When I was shown the charts and diagrams, to add, divide, and measure them,
When I sitting heard the astronomer where he lectured with much applause in the lecture room,
How soon unaccountable I became tired and sick,
Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars."

There is little doubt, from all we are coming to know of the child, that in his flitting fancies are to be seen traces of about all the outgrown superstitions of the race. If his individual development does run parallel with that of the race, it must needs be that science, instead of exterminating superstition, as she strives to do in the adult, should rather foster it in the child. If she makes war upon it prematurely, she destroys her own foundation. Crude and fond myths lying so warm and so long about the heart fertilize the roots of love of science in childhood. They are the pledge and mould of a feeling toward nature which must not be too early intellectualized. We should not thwart nature in her endeavor to fill

XUM

the child with the animistic feeling that everything has an inner life sympathetic with his own. Savage life seems a kind of macrocosm of childhood. If so, we may use the anthropology of primitive man as the common child life writ large, or so highly magnified that all its latent germs and tendencies stand out in bold relief.

To illustrate, then, the state of mind of primeval man most akin to childhood, let us take his attitude toward nature, as indicated by certain conceptions, beliefs, and practices that cling with amazing tenacity.

The difficulty in the nineteenth century of looking out upon the world, as did primitive peoples, is at once apparent. How can we see with such limitations, though limitations with accompanying advantages? They were consciously a part of their surroundings; no dream even of cold differentiation of the ego from the world of matter disturbed the peacefulness of slumber; kindred beings with Thoreau when he says of Walden:

> I am its stony shore,
> And the breeze that passes o'er.

To them there was no world of science; no anthropology, no geodesy, no paidology. There were the phenomena of earth, air, water, sky; life in manifold forms: animals but no zoölogy; flowers, but no botany; there were clouds, but no meteorology; there were lights in the firmament, but no astronomy. These objects near and far they beheld with eyes unaided by microscope or telescope. Naked-eye vision on earth, in sky, what were the limitations of our world thus!

Wonderful things took place, things which in later times have been called miracles; but such phenomena were not an infraction of laws, for of laws they had no knowledge. What might they not believe, then, what realms of imagination might they not explore, what a Milky Way region for conjecture and fancy: ignorance of order and systems conditioning poetic conceptions!

The Finns believed that the earth and heaven were "made out of a severed egg, the yolk being earth and the crystal surrounding fluid the circumambient ocean."[1] To the Scandinavians, terra firma was an animal, Jötun, whose life had gone out, the mountains his framework, earth his flesh.[2] The Veda discloses that the ancient Indians viewed rain-clouds as cows whose udders the winds of heaven milked.[3] Even in the last part of the Middle Ages, belief was

[1] Fisk, "Myths and Myth Makers," p. 17.
[2] *Op. cit.*, p. 17.
[3] *Op. cit.*, p. 17.

current that human beings were sometimes transformed into wolves; that woman's offspring was occasionally animal; thatby nursing the bloody sword its victim would be restored.[1] The ancient Jew looked up to the sky and conceived it as an extended plate, fashioned with view to keeping ocean from earth, yet with windows through which came the rain.[2] With more poetic insight, the Greek saw the daughters of Danaos (Sky) unsuccessfully attempting to draw up water with sieves.[3] To another primitive people, the Aryan, the sky was a blue sea, and ships (clouds) sailed thereon.[4]

The primitive man was conscious of life; he viewed the phenomena about him as likewise possessing life. The sky, clouds, thunder, sun, moon, ocean, earthquake, whirlwind, were animate beings. No almanac registered for him the recurrence of seasons and days, "but each morning the dawn would drive her bright flocks to the blue pastures of heaven before the birth of the lord of day from the toiling womb of night." Every sunrise was a new birth, every sunset a death—gladness and sadness. The moon was the huntress Artemis on her way through the air, hastening to bathe herself in limpid waters. The whirlwind (Typhœus) was a terrible monster with a hundred heads, fearful eyes and terrible voices. He was the father of winds and had his abode in a Cilician cave.

Hardly any visible object could have occasioned so much speculation and wonder as the moon. She (or more frequently he) was so unmistakably on a journey through the ether; she was attended by no satellite; now she was in her pathway near this star, now that; now in the region near the sun, now opposite; at one time full-orbed, at another crescent. She might be observed in greater or lesser glory in the realm of night, when, duties done, man was at leisure and did not find her light so dazzling as to repulse open-eyed wonder. Who dares assert she is a lifeless ball, reflecting secondary glory? Let Anaxagoras pay the penalty of such rashness! A little later, through forgetfulness to associate Endymion with the sun, arises the myth of the man in the moon, bearing the burden of faggots on his back, or that bundle of cabbages. Later still the man in the moon is Cain carrying thorns on his back, or Isaac carrying a burthen of wood for his own sacrifice, or Judas Iscariot translated for treason. There is also the "woman in the moon,"[5] in many

[1] *Op. cit.*, p. 17.
[2] *Op. cit.*, p. 48.
[3] *Op. cit.*, p. 48.
[4] *Op. cit.*, p. 49.
[5] "Moon Lore," p. 32.

XUM

forms.[1] Among the Esquimaux, tradition says a great conjuror ascended into the heavens with his handsome sister. Out of fuel and fire which he carried he fashioned the sun. Here for a time they lived happily, but at length, in cruelty the brother burnt one side of the sister's face. For this she ran away and became the moon. Then the brother in the sun began that chase after the moon which will never end. When he is near her we see the burnt side of the face, when opposite, the other side.[2] There are also the "hare in the moon," the "toad in the moon," and other myths.

But man has a religious nature. How did the primitive man—the Areios of Baring-Gould—discover it? At first, he found the object of worship in himself. He was first conscious of his own powers, and so was self-centred. Not long, however: limitations appear; he can not do what he would; the recognition of obstructions is followed by the conviction that there are volitional powers outside himself that must be respected. How exalted are the animals he is unable to slay—the lion, the bear and tiger! How useless to contend against the elements! They are like himself, however, endowed with reason.[3] Hence he is led to adoration.

The outward phenomena of earth and sky were connected with divine agencies. Streams flowed onward, not through the action of the law of gravity, but because the river god willed they should. Deities peopled earth, air and water, to whom man appealed. Virgil makes how many sea divinities, on the invocation of the captain, respond and secure the palm of victory in that memorable ship-race! "Every form of polytheism is sprung from nature-worship."[4] The deities worshiped were man-shaped, man-endowed — anthropomorphic; the conception of sex was always apparent. "Xenophanes said that if horses, oxen and lions could paint, they would make gods like themselves."

In general, it may be said, these divinities were not all of the same grade or importance. The gods of the sun, moon and stars were likely to be of the first order, and every people worshiped one or all of them. Survivals of this worship are found in some form among all races to-day. The honor of importance oscillates between the sun and the moon. Among the Indians of Vancouver, says one, "Individuals have been observed to look up to the moon, blow a breath, and utter quickly the word, 'Teech! teech!' (health, or life). Life!

[1] *Op. Cit.*, p. 53.
[2] "Moon Lore," p. 56.
[3] "Polytheism and Monotheism," Gould, pp. 136-7.
[4] *Op. cit.*, p. 145.

life! this is the great prayer of these people's hearts."[1] The people of Western Africa, every month when the new moon appears, either fall upon their knees, or stand and cry out, "So may I renew my life, as thou art renewed."[2] In Jeremiah, vii. 18, we find "the women knead dough, to make cakes to the Queen of Heaven, and to pour out drink-offerings unto other gods." To a religious Hebrew it was rather the moon than the sun which marked the seasons, as the calendar of the church was regulated by it. Socrates in his trial said: "You strange man, Meletus, are you seriously affirming that I do not think Helios and Selene to be gods, as the rest of mankind think?"[3]

But the animals come nearer man than heavenly bodies, and thus affect his life more immediately. Generally, the ancient was just as certain of the animal's future existence as of his own. The common denial of such existence to-day is in striking contrast. In the next world the relationship of earth would be continued, or some service be rendered. Examples of savage peoples in modern times may be taken in evidence. They talk to beasts living or dead as to rational beings. If a bear is to be killed, his pardon is asked and his spirit entreated not to seek revenge. Sometimes they deny having done the deed, as Koriaks who lay the blame to a Russian. The Pawnee's or Comanche's horse or the Arab's camel has been sacrificed at the grave, as well as sheep, cows, oxen, hounds and falcons among other tribes, with view to service in the future. Belief so common in a hereafter for even the lowest animal life is emphatic evidence of the significance of earthly relationship.[4]

When we come to the worship of animals the matter is presented in a threefold aspect. In the lowest grade of mankind the animal is worshiped for itself, on account of cunning, ferocity, or strength, and because capable in the hereafter of causing *benefit* or *injury*. A Kamchadal, in fear, worshiped whales, bears and wolves, and in their presence did not mention their name, in the belief of their knowledge of language.[5] To some of the Peruvians it appeared that man might well adore the bear and tiger, since he had invaded realms belonging to them. Inhabitants of the Philippine islands on meeting an alligator sought his favor by throwing to him any propitiatory offering at hand, earnestly entreating him not to

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[1] "Moon Worship," p. 127, Note 229.
[2] "Moon Lore," Harley, p. 114, Note 196.
[3] *Op. cit.*, p. 117. Note 204.
[4] Tylor, "Primitive Culture," I. pp. 422-8.
[5] *Op. cit.*, II. p. 209.

harm them.[1] A Siberian tribe take oath in a Russian court "on a bear's head, for the bear, they say, is all-knowing, and will slay them if they lie."[2]

Again, the animal is the object of fetish-worship. In the Georgian group of islands of the Pacific, herons, woodpeckers and kingfishers were considered sacred and were fed on the sacrificial food, their cries the while taken as the replies of the oracle.[3] "In the Fiji islands, certain birds, fish, plants, and some men, were supposed to have deities closely connected with or residing in them. Thus the hawk, fowl, eel, shark, and nearly every other animal became the shrine of some deity, which the worshiper of that deity might not eat, so that some were even tabooed from eating human flesh, the shrine of their god being a man."[4]

In our own country the Indian killed his medicine animal, flayed it, and preserved the skin, which then became the object of fetishistic regard.[5]

Here might be noted another form of fetishism, stock and stone worship. The Dacota Indians smeared a boulder with paint, called it grandfather, and then with offerings asked for its protection and deliverance from danger.[6] In Brazil, stakes in the ground were entreated as good or evil powers, and gifts were made to them.[7] The Turanians in northern Asia worshiped stones as the homes of powerful divinities, particularly those resembling the form of man or beast.[8] Even in France and England there was stone-worship the first part of the Middle Ages, as evidenced by the efforts the Christians made to suppress it.[9]

Touching this phase of fetishism Mr. Tylor, after noting what Berkeley has to say as to objects and powers contained in them, and Leibnitz's comparison of "active primitive power to soul or substantial form," writes: "I will venture to assert that the scientific conceptions current in my own school days, of heat and electricity as invisible fluids passing in and out of solid bodies, are ideas which reproduce with extreme closeness the special doctrine of fetishism."[10]

Lastly, the animal is regarded as a patron deity, or as subject of religious observance. This is closely associated with

[1] *Op. cit.*, II. p. 209.
[2] *Op. cit.*, II. p. 210.
[3] *Op. cit.*, II. p. 211.
[4] *Op. cit.*, II. p. 211.
[5] *Op. cit.*, II. p. 211–2.
[6] *Op. cit.*, II. p. 147.
[7] *Op. cit.*, II. p. 147.
[8] *Op. cit.*, II. p. 149.
[9] *Op. cit.*, II. p. 152.
[10] *Op. cit.*, II. p. 147.

totemism, which is a division of a tribe into clans designated by Bear, Wolf, Beaver, or the names of plants or objects from which the tribe is supposed to have sprung. In Australia a family has its "kobong" for protector, between which and itself there is a peculiar relation. Should one of the family kill such, he might destroy his own protector. In South Africa there is a people divided into four clans, represented respectively by the crocodile, fish, lion, and wild vine. Here "a man does not eat his tribe animal, or clothe himself in its skin, and if he must kill it as hurtful, the lion for instance, he asks pardon of it and purifies himself from the sacrilege."[1]

It may seem strange to us that the serpent should become an object of worship, yet such is the fact. There is evidence, more or less complete, which proves or indicates the existence of such worship over the larger part of the world. While the reason for this might be grace of movement, beauty of color (sometimes), endurance, ferocity, there is a stronger reason, according to Mr. Fergusson, in the belief that he is a wise teacher, the oracle of coming events. He is the Agathodæmon, the assurer of health and fortune, the guardian of men and treasure. It is conjectured that serpent worship had its origin among a Turanian people, perhaps on the lower Euphrates. It is declared to be coëxtensive with human sacrifice, though not, so far as known, conjoined with it. It exists in parts of Africa now. Serpents form one of the three classes of gods in Whidah. In Dahomey it may be found in completeness, an example of what some believe to be "the oldest of human faiths."

World-wide has been the reverence for trees. There is some direct and much circumstantial evidence of the belief that some trees have souls; certainly they are regarded as the abode of spirits and places at which worship may fitly be offered. It is recorded that the responses of Jupiter's oracle in Dodona came from an oak. The laurel was sacred to Apollo, and it was believed to be a protection against lightning, as Tiberius discovers to us by wearing a crown of it on the approach of a thunder-storm. Buddha was a tree-genius more than two-score times. In Abysinnia pilgrimages were made to the sacred tree, Wodanabe, which was worshiped and entreated "for riches, health, life and every blessing."[2] The Ojibwa medicine-man has heard the wail of the tree when felled. In Africa, in time of fever especially, trees are appealed to for restoration to health. In southern Asia tree-deities are presumed to appreciate dolls suspended from

[1] *Op. cit.*, II. p. 214.
[2] *Op. cit.*, Vol. II. p. 197.

the branches. The time has not passed when a European maiden, on St. Thomas' day, consults the spirit of a tree as to her destined husband. And in many parts of the world, especially India, reverence for trees still exists.

Interesting are the records of "Saxon Leechdoms, Wort-cunning and Starcraft" illustrating the history of science in England before the Norman Conquest. The first volume begins with the medicinal virtues of betony. It is prescribed for twenty-nine ailments. "If a mans head be broken, take the same wort betony, scrape it and then rub it very small to dust, then take by two drachms weight, and swallow it in hot beer, then the head healeth after the drink" (I. p. 71). "For sore of side, take of the same wort by weight of three drachms, seethe in old wine and rub down and add thereto twenty-seven pepper-corns, drink of it then at night fasting, three cups full" (I. p. 73). "If a man will not be drunk, let him take erst, and taste of betony the wort" (I. p. 75). This herb may also be used for sore, dim, or blear eyes, "in case a man become tired with much riding or walking," or "be out of health or feel nausea," for bite of snake or mad dog, gout, etc.

Cinquefoil will avail "for ache of mouth and of tongue and of throat," "in case a man's midriff acheth," or bite of adder, etc. 185 plants are enumerated, and each one of these is a remedial agent for from one to thirty bodily infirmities. But who will say that we rely less on the medicinal virtues of plants to-day than the people whose sovereign William the Conqueror became? Many a patient knows not his indebtedness to the botanic balm that follows the doctor's R. If he reads "taraxicum," "belladona," he may be without suspicion of their source, the plant, his friend unrecognized.

The curative virtues of animals we recognize at the present time; for instance, the blood from the slaughter-house. We remember that Walter Scott was frequently wrapped in the sheep's fleece, still warm, for his lameness. Our Saxon ancestors seem to have been under obligations to an Egyptian king, Idpartus ("he was highten"), who is said to have acquainted Cæsar Octavianus with the following remedies: "For oppressive, hard drawn breathing, a foxes lung, sodden and put into sweetened wine and administered, wonderfully healeth" (I. p. 341). "For oversleeping, a hares brain in wine given for a drink; wonderfully it amendeth" (I. p. 343). "For the men who hear but little, melt with old oil, hounds suet and juice of wormwood; drop it into the ear, it amendeth the deaf" (I. p. 363). Those who suffer apparitions should eat lion flesh (I. p. 365). "To remove ugly marks from the face, smear with bulls blood—it taketh away all the marks"

(I. p. 367). For blemishes of the face a woman should use, daily, elephant bone, or ivory, pounded with honey. Thus "she will purge away the spots" (I. p. 369). "For cancer, the head of a mad dog burned to ashes and spread on, healeth the cancer wounds" (I. p. 371).

I have dwelt thus at length upon these crude superstitions in order to say that the wildest of them are still very vital for childhood, and both show and strengthen man's pristine closeness to nature. Let those who doubt, try them upon young children, and they will realize that childhood thrives in the world of myth. If this seem a questionable statement, let me suggest a few specific tales to be sympathetically told to children of from five to ten years, as follows: The tale Arachne, turned into a spider for daring to compete with the divine weaver, Aurora; the tale of Tithonus, who asked for immortality, but forgot to ask for eternal youth, and so shriveled up with age, and was turned into the first grasshopper; the origin of the sunflower from Clytie, the water-nymph; of laurel from Daphne; of the first pair of oak trees from Philemon and Baucis; of the robin in the Indian tale, where its human original fanned the dying flame that saved the world from the ice age of the great polar bear. Let him tell the whole story of the dying summer, as the death of Baldur, or the tale of the seasons in the myth of Persephone stolen by Pluto. Such a pedagogy brings us to that lost point in the psychogenesis of the child and race where science and religion have their common origin, and gives new zest to all forms of the interpretation of nature and life.

In this world of myth and superstition, common to the child and the primitive man, are the germs of modern knowledge; and one is surprised at the insensibility to its claims displayed by civilized, enlightened nations, in whose granary of thought such beliefs are altogether chaff. It is interesting to glance at a few landmarks showing the slow growth of science out of this realm of pregnant and vital superstitions.

That love of nature so characteristic of the Greeks, a love which this age is making efforts to regain, began gradually among themselves to lose its force and power. The change was not sudden. The realization of mystery, ever an impetus to speculation and investigation, gave birth to science. This began naturally enough with astronomy. Thales established the fact of the solstices and equinoxes, and accordingly announced that there were four instead of two seasons. To him the sun and stars were not gods, and it is probable that he surmised the moon's light was secondary. Pythagoras, in the fifth century, B. C., declared that the earth was in motion.

XUM

Aristotle announced that the earth must be a globe. He asserted the inferiority of plant to animal, and is called the founder of zoölogy. About the same time Hippocrates became the founder of the science of medicine. In the first century before the Christian era, Ptolemy explained the movements of sun, stars, and planets, with the earth as the centre of his system. In the same century Strabo explained the action of a volcano and the cause of earthquakes. Thus the tide of investigation in science was set in motion. From this time on till Roger Bacon, 1240, there is comparatively little to record. He solved the mystery of the rainbow, and was the pioneer of modern science. We may mention further the discovery of America; the substitution of the Copernican for the Ptolemaic system in the 16th century; the belief of Palissy that fossil shells were once real sea-shells; the discovery of the circulation of the blood in the 17th century; respiration of plants, established by Hales in the 18th century; Franklin's proof of identity of electricity and lightning; Priestley's discovery of oxygen; Agassiz's proof of the glacial period, etc. Thus, to cut it short, old belief after belief gave way before unmistakable evidence; deities were dethroned. The conception of relationship of man to outward phenomena was from time to time shocked. The old communion with nature could not be maintained. Thus in the progress of the centuries there was an inability of readjustment to the bewildering situation.

Again, the withdrawal of men from rural life to centres for commercial pursuits, their constant and close associations with one another, absence of country scenes and influences, focused attention on trade and a certain luxurious life. Thus was nature looked upon as a means of gratifying and satisfying bodily wants, her higher ministrations being stifled. In modern times this condition has been accentuated by the unifying force of the railway, telegraph, and printing press.

We should likewise mention asceticism, particularly in the early Christian centuries, as a powerful opponent of nature's claims. Intercourse with the world was deemed incompatible with those views which characterized the typical anchorite. St. Anthony is said to have refused to learn letters, because he would thus be brought into too close association with other boys.[1]

The anchorite struggled to be freed from the interests and affections of his friends and family. Denial of the supremacy of parental affections, severing of the bond of conjugal relations, fear of association with one's mother or sister, are illustrations to be found in Lecky. Love of nature needs a congenial atmosphere.

[1] "History European Morals," Lecky, II. p. 123.

Men's thoughts were turned from the outward to the inward, from below to above. Penance, in some form, was the rule. There was a strong desire to experience those sufferings which were believed essential to the soul's welfare. Maceration in the desert life was a common means and the strongest evidence of sincerity. One monk, according to St. Jerome, lived for thirty years on a slight amount of barley bread and "muddy water."[1] Claims of the "evil" body were denied. Another "never washed his clothes, never changed his tunic till it fell to pieces." St. Abraham never washed face or feet after his conversion.[2] The supreme effort and meaning of life were to save one's own soul.

When one's face was resolutely set against cleanliness, and the idea of pleasure was mainly associated with vice, how could the immaculate lily be appreciated? When a hypercritical chastity is exalted over charity; when, according to St. Jerome, "the duty of the monk is not to teach, but to weep,"—how will he see through his tears the glory of the sunset? When the hermit haunts tombs, dried-up wells and "deserted dens of wild beasts," how will he realize the splendor of noonday?

A pseudo-communion with nature, however, has evidence in the sect of Grazers, the grass-eaters, and in St. Besarion, "who spent forty days and nights in the middle of thorn-bushes". So much for thousands of the lives of the monks. But the esteem and admiration, "the reverence with which they were regarded by those who, from their attainment or character, would seem most opposed to the monastic ideal," would leave little room for hope that a Wordsworth in such times could have received recognition.

Too little attention as yet has been given to child study to determine at what age, generally, there is an awakening to the charms of nature. Various are the avenues that lead to her enchanting palace; in many instances, too, that which in early years attracts gives place later to some different fascination; and easily is this shown in the case of eminent scientists. The motion and songs of canary birds have unmistakenly given delight to a child of twelve months. Indeed, now and then, a fond father, in the case of his child who has not uttered an intelligible word, has heard in the invigorating air and beauty of out-doors inarticulate sounds which he believes evidence of joyful susceptibility to nature's elixir; and in support of this Mr. Beers writes: "A child experiences an almost purely physical pleasure from the play of the outward world on his senses." A child of thirteen

[1] "Vita Pauli."
[2] "Vitæ Patrum," c. xvii.

months has shown her pleasure at the sight of moon and stars, and again and again has "greeted them with a shout of joy." The impressionability of a child is hardly realized. The love of Walden began almost in Thoreau's infancy. In his last records, Jefferies tells his amanuensis that he sees in the sun-lit water barred pike and floating clouds of his childhood. Scott has of the Borderland "infantile memories." Agassiz's love of natural history displayed itself close to years of infancy. Tennyson, in his last years, paints a vivid picture of his early playgrounds. Indeed, "the study of almost any poet's childhood, in connection with his works, will show that his strongest, most vivid, and most lasting impressions of nature were his earliest."[1]

The color and oder of flowers early attract attention; and a desire for possession seizes the child. Huxley thinks there is something kindred between the child and the flowers she holds, as if going back to those early ages when they were appreciated not alone for their beauty and fragrance, but were regarded as the bond connecting man with the mysteries of the life encircling him. Did not the adult Greeks feel this when at their festivals altars were festooned with roses, and guests at feasts were decorated with the essential garlands; when songs of joy filled the air, as mother-earth arose from winter's sleep with the pulsating life of spring; when, in turn, at harvest-time, as the leaves and flowers faded and fell, sorrow solaced herself in fitting requiems?—

> The melancholy days . . . . , the saddest of the year,
> Of wailing winds, and naked woods, and meadows brown and sere.

Shall we not accredit Dickens with knowledge of child-life? Has not his sympathetic simplicity been a passport to the deep recesses in the haven of the heart and emotions, as he writes the well known lines of little Nell? "Her couch was dressed with here and there some winter berries and green leaves, gathered in a spot she had been used to favor. 'When I die, put near me something that has loved the light and had the sky above it always.'"

Frœbel tells us what an experience was his when in boyhood he was just becoming acquainted with the attractions of the outward world. He found in his father's garden a little red flower with five petals, each dotted with gold. As he pored over its beauty, he fancied he could see into its depths; hours at a time he studied it then, and in succeeding years. He tried to voice its message, but could not; yet he

[1] Graham, "Nature in Books," p. 176.

never tired of watching it, enamored of its mystery. And why should not the flower fascinate the boy? Like him it was born, it respires, sleeps, takes and digests nourishment. In Plato's beautiful figure, man himself is a plant, not of earthly but of heavenly origin.

In the case of a few of nature's children, let us trace recognition of her charms: Humboldt, as a child, displayed a fondness for natural history. His favorite playthings were flowers, butterflies, beetles, stones, shells, which he was zealous in collecting. Judge of his attachments when he writes: "Without talking sentiment, it may be said that plants become our friends, and among them we naturally find some more worthy of notice than others. Our walks are no longer solitary, since we are surrounded by the acquaintances we have made."

Hugh Miller, when about seventeen, was a quarrier. Of this period he writes: "A taste for the beauties of natural scenery is of itself a never-failing spring of delight, and there was scarce a day in which I wrought in the open air, during this period, in which I did not experience its soothing and exhilarating influence." With a friend he was wont to roam field and forest by moonlight, captivated by a love for "the wild and beautiful in nature."

What an exceptional life was that of Jefferies, one who in adult years was sustained afield! In boyhood, his father by his side was ever ready to provoke curiosity, to lead to the home of insect or bird, to familiarize with habit, to peer into secrets with hardly the air of intrusion, responsive to all the varied influences affecting senses so keen, delicate, discriminating. Could the boy have dreamed that ever a father in dullness or indifference lacks sympathy with his son? His father was man to him, boy with him. Under such conditions was fostered that passion which Richard Jefferies in manhood made known to the world.

When the school days of Tyndall began, he had already as a foundation an affectionate intimacy with the outer world. Birds, plants and rambles had endeared it to him.

Bryant, in his boyhood, was given to collecting shells and minerals. He writes: "I was always from my earliest years a delighted observer of external nature. . . . The poets fostered this taste in me." "Man is necessarily a naturalist."

Agassiz, in his boyhood, was possessed with the mania for collecting birds' nests, eggs, especially insects, and other objects from the world of life. Love of acquaintance with such objects is said to have been a mental trait with him and not a mere desire "to find friends and playmates" in the ani-

XUM

mals about him. With his brother, he haunted forest and stream. He knew the birds by song and sight; he had a knowledge of their habits, food, and life. He waded in the brook, watched the fishes, and sometimes captured them with peculiar devices all his own. Not satisfied with the life he lived in communion with the animal world out-of-doors, he converted his room into a habitat for his pets and favorites—his home theirs.

Audubon's boyhood extended through life. His first recollections are linked with the flowers, the orange-tree, and mocking-bird, "the king of song" in Louisiana. He says that remarkably vivid were his earliest impressions of nature, that her beauties excited a "frenzy" in his blood, and at a very early age his career could have been predicted. Let a friend describe his surroundings. "On entering his room, I was astonished and delighted to find that it was turned into a museum. The walls were festooned with all sorts of birds' eggs, carefully blown out and strung on a thread. The chimney-piece was covered with stuffed squirrels, raccoons and opossums; and the shelves around were likewise crowded with specimens, among which were fishes, frogs, snakes, lizards and other reptiles. Besides these stuffed varieties, many paintings were arranged upon the walls, chiefly of birds."

Boyesen was distinguished in his boyhood for his love of pigeons, rabbits, dogs, cows, and horses. The pigeons, several hundred, he named after characters in books he had read, and viewed them as actually impersonating such. Under the tuition of Gunnar, he was fascinated by the secrets of the woods, in which he sometimes passed a night, the better to watch the movements of some bird or animal, and become acquainted with its habits and peculiarities. Said he: "By the way, have you ever sat through the night at a lonely river, and seen the otter go a-fishing? He plumps so quietly into the stream, and you see nothing but perhaps a little black moving speck, and the gleam of his eyes, and his long whiskers." His intimacy with animals and love of them are touchingly brought out on the occasion of leaving home to attend his first school. The morning came, the steamer was at the pier, but the boy was not to be found. An anxious and protracted search began, messengers being sent in every direction. He had been seen that morning by the water, and men with drag-nets pushed from the shore in search. As excitement increased, the suggestion was made that he might have gone to the pasture to bid the cows good-by. This, sure enough, had been the case. He had said his farewells to several, but in his grief he was unable to part from his favorite calf, around whose neck he

was clinging, his tears a child's witness to the bondage of love.

Readers of Ruskin are aware of his strong passion in the presence of landscape, and his love for the beautiful in nature. He has sketched the development of it. The first thing he remembers as eventful in his life was his visit, under the guidance of the nurse, to "Friar's crag on Derwentwater; the intense joy, mingled with awe, that I had in looking through the hollows in the mossy roots, over the crag, into the lake, has associated itself more or less with all twining roots of trees ever since." He remembers, likewise, a walk up hill on a winter morning, "when the rocks were hung with icicles." Whenever in the vicinity of hills or in mountain scenery, "I had a pleasure, as early as I can remember, and continuing till I was eighteen or twenty, infinitely greater than any which has been since possible to me in anything; comparable in intensity only to the joy of a lover in being near a noble and kind mistress, but no more explicable or definable than that feeling of love itself."

With such scenery, there were always thought-associations. Very early reading and parental instruction had prepared him for this. His favorite book was Scott's Monastery; "so that Glenfarg and all other glens were more or less enchanted to me, filled with forms of hesitating creed about Christie of the Clint Hill, and the monk, Eustace, and with a general presence of White Lady everywhere. Acquainted with the ruins of Kenilworth and Lochleven, his "pleasure in mountains or ruins was never, even in earliest childhood, free from a certain awe and melancholy, and general sense of the meaning of death, though in its principal influence entirely exhilarating and gladdening. His enjoyment was due in part to contrast; he was born in London, and for the first two or three years of his life was accustomed to brick walls opposite, and he had no brothers, sisters or playmates. "There was no definite religious feeling mingled with it. I partly believed in ghosts and fairies. I never thought of nature as God's work, but as a separate fact or existence." He was not led to reflection. "Every fancy I had about nature was put into my head by some book; and I never reflected about anything till I grew older, and then, the more I reflected, the less nature was precious to me; I could then make myself happy by thinking in the dark, or in the dullest scenery; and the beautiful scenery became less essential to my pleasure." So far as it had strength it was "inconsistent with every evil feeling, with spite, anger, covetousness, discontent, and every other hateful passion; but would associate itself deeply with every just and noble

sorrow, joy, or affection." It had much power in moulding the character, it had hardly any in strengthening it; it formed temperament, but never instilled principle. Finally, though devoid of "religious sentiment," there "was a continual perception of sanctity in the whole of nature, from the slightest thing to the vastest,—an instinctive awe mixed with delight." "These feelings remained in their full intensity till I was eighteen or twenty, and then, as the reflective and practical power increased, and the 'cares of this world' gained upon me, faded gradually away, in the manner described by Wordsworth in his 'Intimations of Immortality.'"

Fortunately, there are found men in every age, to whom that which to our sordid eyes is trivial, is pregnant with life and significance. If they oscillate from society to solitude, or even in solitude bear witness to nature's life, if their eccentricities form a topic of conversation for neighbors, when that of weather fails, the throbbing heart of the world holds them in tender, affectionate remembrance—all such who have thus poetized existence. Such a one is Burroughs. He is ever looking at the birds against a human background. Robert O'Lincoln is an intimate friend. He finds Mrs. Robert rather insensible to the beautiful attire and melodious voice of her lord, and therefore he surmises that his excellency is striving to outdo some other lord—regardless of Darwin's "sexual selection principle"—suggesting "an analogous case in a higher species!" pride, vanity and self-consciousness strengthening the analogy. In fact, he finds no coquetry at all in female birds; no "airs" and "wiles," beauty of dress and accomplishments belonging to the other sex. Among a large number of songsters he distinguishes "some Shelley or Tennyson among his kind."

In the sparrows he finds meekness and lowliness. From them come "lullaby songs of childhood," issuing from their "cradle." "Peace and gentleness" characterize the note of the vesper-sparrow; "harmony and serenity," that of hermit-thrush and wood-thrush, birds worthy of "poetic monument." To him, "birds all have a language which is very expressive, and which is easily translatable into the human tongue."

Burroughs sympathizes with the seasons. In the spring his intellectual fires smoulder. He is a nursling at nature's breast, and feels the pulsations of her heart. April's aroma from upturned sod, from bud and decayed leaves, diffuses itself about him and holds him an intoxicated captive. Then hears he the blue-bird's note, that "violet of sound." Again, a day on which he sees large flocks of pigeons moving up and down the Hudson, and geese "harrowing the sky,"

seems "memorable and poetic." Is there anything to him "like a perfect April morning?" Who can voice its utterance? Yet "it is something very delicious. It is youth and hope. It is a new earth and a new sky. How the air transmits sounds, and what an awakening, prophetic character all sounds have! The distant barking of a dog or the lowing of a cow or the crowing of a cock, seems from out the heart of nature, and to be a call to come forth." Why should it not then be to him "the best month to be born in"?

Observe, too, what in nature is beautiful to him: "When I go to the woods or fields, or ascend to the hill-top, I do not seem to be gazing upon beauty at all, but to be breathing it like the air. I am not dazzled or astonished; I am in no hurry to look lest it be gone. I would not have the litter and *débris* removed, or the banks trimmed, or the ground painted. What I enjoy is commensurate with the earth and sky itself. It clings to the rocks and trees, it is kindred to the roughness and savagery; it rises from every tangle and chasm; it perches on the dry oak-stubs with the hawks and buzzards; the crows shed it from their wings and weave it into their nests of coarse sticks; the fox barks it, the cattle low it, and every mountain path leads to its haunts. I am not a spectator of, but a participator in it. It is not an adornment; its roots strike to the centre of the earth."

And the "spirit of nature" must be possessed by every author "through the visible objects of the universe, and his affiliation with them subjectively and objectively. Not more surely is the blood quickened and purified by contact with the unbreathed air, than is the spirit of man vitalized and made strong by intercourse with the real things of the earth. The calm, all-permitting, wordless spirit of nature—yet so eloquent to him who hath ears to hear! The sunrise, the heaving sea, the winds, the gentle summer day, the winter sights and sounds, the night, and the high dome of stars,—to have really perused these, especially from childhood onward, till what is in them, so impossible to define, finds its full mate and echo in the mind,—this only is the love which breathes the breath of life into all the rest."

Thoreau is the child of nature; he accepts her invitation and goes forth. To learn her secrets he recognizes the essentialness of sympathy. He therefore divests himself of impedimental excrescences of civilization; habits himself according to the dictates of her court and takes up his abode with her at Walden, on the Merrimac or elsewhere. He relishes her hospitality as, after the experiences of the day are journalized, he goes to rest on her couch, protected by board or buffalo robe. So accustomed to her phases is he that should he

XUM

awake, he can tell whether the sun has reached the midnight meridian by the shadows cast or by the chirp of crickets; for he says, "The landscape contains a thousand dials which indicate the natural divisions of time; the shadows of a thousand styles point to the hour." When the morning comes you shall not find Thoreau asleep; you shall not surprise him in his bed. If at Walden, he goes to its shores for a bath, "a religious exercise." He claims to be as much a worshiper of Aurora as were the Greeks. Morning is the best part of the day; then are we most responsive; then for a brief period is a part of us awake that at all other times is slumbering. It may be he will sit in the sunlight till noon, in deep meditation, surrounded by the hickory, pine, sumach, with birds in their branches. He loves, as he says, "a broad margin" to his life; then it is that he is conscious of growth. Housework was to him a pleasure. When, for cleaning, it became necessary to carry his effects outdoors, he fancied they were glad to be out and unwilling to be carried back, and he would fain keep them company.

In winter, various sounds and sights engrossed his interest. The hoot of the owl was always to be heard. There was the barking of the fox, the cracking of the pond. Not chanticleer, but the red squirrel, waked him in the morning by running over the roof and sides of his lodge, as if to say, "Come forth, companion, come forth." He shares his stores with the denizens of the wood, and finds a pleasant pastime in watching them accept and dispose of his bounty—the rabbit, the squirrel, the jay, the chickadees.

How intimately blended are Walden and Thoreau! One of his earliest memories was of this sheet of water, where it occurred to him he would like to live. Here he did live, in manhood, over two years, though with social relations in Concord village kept up the while. In his words: "I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived. I did not wish to live what was not life, living is so dear; nor did I wish to practice resignation unless it was quite necessary. I wanted to live and suck out all the marrow of life."[1] The surface of the pond was his front yard, as it were. We may find him there listening to the echoes of his paddle struck against the side of the boat; or of an evening sitting in it and playing the flute, while the perch, charmed, hover around, and Selene, gilding the scene, lingers. Sometimes, at midnight, after returning from the

[1] "Walden," p. 98.

village, he would resort to the pond for fishing, anchoring or drifting, as the wind determined, his thought now and then arrested by schools at the surface or a venturesome member at the hook, while the fox and the owl are heard on the encircling shore. In winter, he was wont to resort to Walden's icy surface, from which the snow, deep elsewhere, had been blown. "Here," said he, "far from the village street, and, except at very long intervals, from the jingle of sleigh-bells, I slid and skated, as in a vast moose-yard, well-trodden, overhung by oak woods and solemn pines bent down with snow or bristling with icicles."[1] He kept up, meanwhile, his appointments on the shore, "with a beech-tree, or a yellow-birch, or an old acquaintance among the pines," regarding little the severity of the weather. To fulfill such engagements he frequently walked through the deep snow "eight or ten miles," and there held converse with some old friend "standing far away in the middle of some pasture, or in the depths of a wood or a swamp, or on a hill-top."[2] And on his way he thinks "of those happy dreamers that lie under the sod, of dormice and all that race of dormant creatures which have such a superfluity of life enveloped in thick folds of fur, impervious to cold."

In the spring, as the ice breaks up, it is a delight to him to hear the song-sparrow, to see the winding curves of the ice, to behold the "ribbon of water sparkling in the sun, the bare face of the pond full of glee and youth, as if it spoke the joy of fishes in it, and of the sands on its shore."[3] What society in the wilds of wood and water and field! Strolling on the shores of Walden, all the elements are congenial to the "poet naturalist." There too, is the bull-frog, the herald of the shades of evening; "the note of the whip-poor-will" speeding across the liquid lake; the alder and the tremulous poplar leaves. Says he: "I experienced sometimes that the most sweet and tender, the most innocent and encouraging society may be found in any natural object, even for the poor misanthrope and most melancholy man. There can be no very black melancholy to him who lives in the midst of nature and has his senses still. There was never yet such a storm but it was Æolian music to a healthy and innocent ear."[4] The pattering rain-drop, the swelling pine needles, "the brooks singing carols and glees to the spring," were in sympathy and friendship with him.

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[1] *Op. cit.*, p. 292.
[2] *Op. cit.*, p. 218.
[3] *Op. cit.*, p. 333.
[4] *Op. cit.*, p. 142.

Thoreau feels naturally, then, a tenderness toward life in the animal world. This did not suffer him to carry a gun to Walden; if he studied ornithology without the fowling-piece, he would have a deeper knowledge of it. He has, at times, compunctions of conscience in catching fish. Yet he recognizes in himself the claims of the animal as well as the spiritual, and deems it possible that to the former, in early years, he owed his "closest acquaintance with nature." He advised inquiring friends to let their boys have guns and "make them hunt."

We may be prepared for the complaint which Thoreau makes, that man does not live a natural life, "round which the vine clings, and which the elm willingly shadows. . . . The winds should be his breath, the seasons his moods, and he should impart of his serenity to nature herself."[1] "Our books of science, as they improve in accuracy, are in danger of losing the freshness and vigor, and readiness to appreciate the laws of nature, which is a marked merit in the otherwise false theories of the ancients."[2] "The fact which interests us most is the life of the naturalist. The purest science is still biographical. Nothing will dignify and elevate science while it is sundered so wholly from the moral life of its devotee, and he professes another religion than it teaches, and worships at a foreign shrine."[3] He realizes that the earth is adapted to our needs. There is repose for the eye, the ear, the mind. Behold yonder shapely pine, nature's handiwork. But nature is the art of God. Why do we go astray from nature's heart? She "has no human inhabitant," he says, who appreciates her. The birds with their plumage and notes are in harmony with the flowers, but what youth or maiden conspires with the wild luxuriant beauty of nature? She flourishes most alone, far from the towns where they reside. Talk of heaven! ye disgrace earth.[4] So, in his words, "We can never have enough of nature. We must be refreshed by the sight of inexhaustible vigor, vast and Titanic features, the sea-coast with its wrecks, the wilderness with its living and its decaying trees, the thunder-cloud, and the rain which lasts three weeks and produces freshets. We need to witness our own limits transgressed, and some life pasturing freely where we never wander."[5]

Gilbert White, of Selborne! Gilbert White, though elected fellow, after graduation at Oxford, and offered college

[1] "Concord and Merrimack River," p. 400.
[2] *Op. cit.*, p. 385.
[3] *Op. cit.*, p. 382.
[4] "Walden," p. 216.
[5] *Op. cit.*, p. 339.

livings, yet preferred his native town, where he passed his life of nearly seventy-three years. He was curate here and declined all offers of elevation in the church, using such time as could be spared from his curacy in correspondence or social converse with friends, and in pursuing to the end of his days that study of natural history on which his fame rests. Confining his observations to a limited area, he made them with as much accuracy as delight. It affords us no slight impression of the richness of his experience to read from him that "all nature is so full that that district produces the greatest variety which is the most examined."

When we reflect upon the joy of discovery, how full of such joy his life must have been! We wonder if ever he ventured forth that he did not come back kindled either with the allurement of pursuit or rejoicing in a secret fathomed. What an ecstatic moment when, after diligent and patient effort, he traces a certain "sibilous note," not to a grasshopper, but, in the face of the derision of the country people, to the grasshopper-lark, a note, "which seems to be close by, though at an hundred yards distance; and, when close at your ear, is scarce any louder than when a great way off." With close scrutiny he studied the goat-sucker, to learn its manners. Its chattering is usually on the bough, rarely on the wing. Its preference of a bare twig for a perch and its attitude thereon, are noted; also its punctuality of beginning its evening song, equaled only by the punctuality of the "Portsmouth evening gun." A brown owl, he tells us, casts up the fur and feathers of its victims in the form of pellets, and hides away any excess of food after the manner of dogs. See the father of English natural history with that mouse-nest which "was found in a wheat-field, suspended in the head of a thistle." He notes the structure of the house, the texture which is of wheat blades, the round shape, the cricket-ball size, but no door can he discover. Forcing an entrance, he finds within "eight little mice that were naked and blind." He muses: "As the nest is perfectly full, how can the dam come at her litter respectively, so as to administer a teat to each? Perhaps she opens different places for that purpose, adjusting them again when the business is over, but she could not possibly be contained herself in the ball with her young, which, moreover, would be daily increasing in bulk." To him it was a matter of interest how a fish dies. He watches its head sink lower and lower till the creature "stands, as it were, on its head, till getting weaker, and losing all poise, the tail turns over, and, at last, it floats on the surface of the water with its belly uppermost." It becomes him to remark upon the social side of the animal

world, and this not alone among those of a kind. The mutual consideration between a doe and cows, and between a hen and horse are recorded. And that a cat which had been deprived of its infant brood should be found nursing little rabbits or squirrels, lends no slight credence to the story of Romulus and Remus and the wolf. It is safe to say that nothing was of more concern to him than the swallow kind. Many hours he spent in contemplating the interest of its life, its innocence, its usefulness, its manner of feeding its young on the wing so difficult of detection, its manner of drinking in its flight. It is so domestic, coming to live in the habitations of man. When, of a fall morning, he sees swallows and martins gathering upon the chimneys and roofs, he is delighted at the spectacle; yet the beauty of this migratory instinct is shadowed by the mystery of their hibernating quarters. He may yet be able to solve it. Such a spirit of inquisitiveness is the condition of the man when, at the age of three-score, he writes: "It is now more than forty years that I have paid some attention to the ornithology of this district, without being able to exhaust the subject; new occurrences still arise as long as any inquiries are kept alive." And, as to landscape, at an earlier time he writes his friend that after traversing Sussex downs for thirty years, new beauties in the mountains are ever dawning upon him.

We should not fail to notice the progress he made in the knowledge of turtle life in his Timothy. It is to him a weather-glass; "for as sure as it walks elate, and, as it were, on tiptoe, feeding with great earnestness in a morning, so will it rain before night." He observes it is extremely sensitive to rain; "for, though it has a shell that would secure it against the wheel of a loaded cart, yet does it discover as much solicitude about rain as a lady dressed in all her best attire, shuffling away on the first sprinklings, and running its head up in a corner." He discloses to us the climax of his appreciation in that inimitable letter written in the name of Timothy to Miss Mulso, the lady friend of the bachelor's early manhood. Touching, indeed, is the sorrow of Timothy deprived of the society of his kind for fifty years, still without hope for the future. Gilbert White enters the field of natural history not for the discovery of dry, anatomical, scientific facts. He is regarding chiefly life in the animal world and what affects life. He records the amount of rainfall; he registers the coming and going of birds; he finds where and when they build their nests, when they hatch their young; he distinguishes their songs and establishes the maxim "that as long as there is any incubation going on, there is music;" he notices how they effect cleanliness, whether

by dust or water. He marks their manner of flight, their movements along the ground. Watch in hand, he tallies the frequency of their feeding the young; he attends to the color of their food and their eggs; he wonders at their behavior in time of danger, their courage and craftiness. When in contemplation of these things, he sits down to write his friends of them, we see no trace of self-consciousness; he would keep his personality in hiding, like a bird's nest, and tells his discoveries in the simplest language, as though he would have contemplated not the flowers of rhetoric, but of fact. In him, in the words of Burroughs, "is nature and art perfectly married."

In men like Burroughs, Jeffries, Thoreau, Gilbert White, Hugh Miller, Audubon and Agassiz, appears in intense form that love of nature which every child shares—a love which is the true basis and pledge of interest in science. Instruction should appeal to this and foster it; and any methods in early instruction that deaden it are bad, however much may be said for their accuracy and theoretic soundness.

In conclusion, those who are concerned for the welfare of science in educational institutions admit the imperfect success attending their efforts. The right attitude toward it has not generally been taken. Scientific men of the professional order must look above and beyond the discovery of fact to the contemplation of the discovery, like Newton and Kepler. In his early years, the student should have his attention mainly directed, not to microscopic aspects of phenomena, but to macroscopic and cosmic. His feelings of interest and sympathy with the life about him should be kept warm and glowing. Too true are the words of Gibson: "We are as much strangers in nature as we are aliens from God. The fox and the deer run away from us." The "mercantilism" which Andrew D. White deplores, must not keep by usurpation the place belonging to the true riches. The laboratory is the end and never can be the beginning of our devotions to nature. All its methods are not essential, but instrumental—not ends, but means. We may abhor paganism, as the ascetics did the body, but it is the condition of science, and the flower cannot be complete unless the roots strike into a rich, deep, dirty soil. Thus, whenever we can teach out-of-doors, have school excursions, substitute real flowers for their pictures, growing ones for picked samples, living for dead animals, dead ones for stuffed specimens, the environment of nature for that of the school-room, we foster the true love of nature. The spirit of botany is where the flowers grow; of zoölogy, where creatures thrill with the joy of being; of geology,

XUM

where the rocks are found; of astronomy, in the silence of the open air—silence save the music of the spheres. The surprising ignorance of nature on the part of children entering upon school life, ought not to be possible. Professor Trelease writes: "I believe in beginning the study of nature before the child learns to read, and in continuing it as an out-of-door recreation through life, whatever his ultimate specialty may be." In this he is right. We must begin early, before the more and more evanescent oneness with nature, the glory of childhood, has forever faded. Only thus shall we secure to Mother Nature her rightful dominion. We must start in the lower grades of our educational system, where our defect is greatest, remembering that the greater and higher anything is in the soul, the deeper its roots must strike.

A STUDY OF CHILDREN'S RIGHTS, AS SEEN BY THEMSELVES.

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The age in which a man lives largely determines his line of thought. Shakespeare wrote dramas, because the tendency of his age was objective rather than subjective. Browning satisfies our present taste for introspection.

This is an age of research, of investigation. Scientific thought dominates us. We are looking for evidences of truth with an earnestness never before experienced. This spirit of our time gives life to all the world's interests. Intellect is crowding mere feeling into the background. Theories and philosophies no longer determine our actions. We want to know.

It is not strange, then, that the special interest in children to-day is an interest based on the desire for knowledge.

Presumably because children are human beings and have souls, they are among the last of nature's productions to become the privileged subjects of scientific study. We have thought it worth while to give careful attention and deep thought to the movements of stars, the lives of plants, and the formations of stones. Meanwhile many a Topsy has come into the world and has "just growed." But until we observe children as we do other forms of nature, until we study them with the same freedom and accuracy, we can hope for no real knowledge concerning child-life.

This might seem a cold and cruel procedure did we not remember that another leading thought of our time is justice. We want to be fair, to do the right thing. We cannot be fair-minded, we cannot act with honesty, unless we know. To separate these two elements in the study of children is like separating the body from the soul. Any work taken up with the right spirit, with the desire to know, in order to live more truly, has strength in its purpose and beauty in its thought.

The study of a child.—How shall we go about it? What ought we to know of him and through him in order to know him? If we could get at the child's inner life, could look out upon the world through his eyes, it seems plain that we should know him in part, live with him more intelligently, treat him more fairly.

One way to gain this information is to gather the thoughts of a large number of children of varying ages and from many sources, collate them carefully, and see whether or not there is in them any common element. This gives simply a strong rough background of truth, upon which the finer lines of closer investigation will show more clearly.

With a view to gaining some facts in this way, we sent out a syllabus entitled, "Children's Rights, as Seen by Themselves," to

XUM

Sex.		Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.
Age.		6 yrs.		7 yrs.		8 yrs.		9 yrs.		10 yrs.		11 yrs.		12 yrs.		13 yrs.		14 yrs.		15 yrs.		16 yrs.	
Whole Number Examined.		43	32	61	56	112	117	172	151	221	199	515	167	204	180	210	160	178	167	154	109	153	135
Ignorant.	Raised to standard of 1,000.	23	0	49	0	74	77	110	52	142	90	161	76	230	92	287	161	240	236	384	270	358	393
Explained to.	Raised to standard of 1,000.	0	0	0	18	16	17	23	40	77	65	129	53	142	39	263	118	286	153	403	270	494	326
Don't do it again.	Raised to standard of 1,000.	23	91	82	89	49	34	41	59	65	70	81	41	103	28	75	50	84	130	64	81	78	96
Made to promise.	Raised to standard of 1,000.	0	0	0	18	8	0	6	7	9	0	37	0	15	0	28	0	17	24	26	9	26	30
Threatened.	Raised to standard of 1,000.	0	0	0	0	25	17	0	20	26	35	37	35	25	14	42	50	22	65	58	27	46	67
Scolded.	Raised to standard of 1,000.	46	45	115	53	100	119	226	73	168	75	161	148	152	60	85	143	106	146	122	90	111	59
Clean chairs.	Raised to standard of 1,000.	23	45	16	125	41	68	29	46	95	115	110	112	137	70	108	167	134	130	109	153	130	96
Confined.	Raised to standard of 1,000.	93	0	98	107	180	94	139	79	108	75	115	89	98	46	94	56	90	47	64	27	46	7
Lose meal.	Raised to standard of 1,000.	70	0	82	71	90	94	128	145	129	140	97	118	103	49	71	124	62	71	45	108	33	30
Lose paints.	Raised to standard of 1,000.	232	136	147	125	189	238	203	251	194	290	313	307	338	238	376	403	246	266	282	261	247	165
Sent to bed.	Raised to standard of 1,000.	488	273	391	427	418	383	377	429	400	455	340	372	338	210	249	347	263	189	154	207	267	148
Whipped.	Raised to standard of 1,000.	512	590	452	409	385	451	452	541	323	480	285	478	279	214	235	372	129	242	70	135	52	133
Punished.	Raised to standard of 1,000.	0	0	16	18	41	17	23	33	9	20	46	18	25	11	5	19	6	12	19	45	33	15
Peculiar punishments.	Raised to standard of 1,000.	23	91	49	53	16	34	35	40	9	20	64	30	44	46	61	62	68	53	38	72	33	30

some hundreds of teachers in California, asking them for their assistance. It was given heartily, and the opinions of a great number of children, boys and girls, ranging in age from six to sixteen years, have been gathered.

The subject chosen, "Children's Rights," as will readily be seen, is inexhaustible. The attempt made by our little syllabus was the discovery of only a few simple truths bearing thereon. Stories usually appeal to children and throw them off their guard more easily than direct questions as to what they think or do not think. A portion of the investigation, therefore, was carried on through stories. The teachers wrote them upon the blackboard and the children answered any questions involved, finished incomplete stories, or did whatever else was requested. They wrote their opinions as language exercises, having no idea of the use to be made of them. The teachers collected these "unconscious revelations," saw that the names and ages of the writers appeared upon the papers, and forwarded them to us uncorrected. We have collated something over 3,000 papers and have charted the results. This article will attempt to show what we have been able to get from the following little story:

"Jennie had a beautiful new box of paints; and in the afternoon, while her mother was gone, she painted all the chairs in the parlor, so as to make them look nice for her mother. When her mother came home, Jennie ran to meet her, and said, 'Oh, mamma, come and see how pretty I have made the parlor;' but her mamma took her paints away and sent her to bed. If you had been her mother, what would you have done or said to Jennie?"

The data were grouped under the following heads and the results were reduced to a uniform standard representing 1,000 boys and 1,000 girls of each age from six to sixteen, as shown in the opposite table:

Explanation of the Rubrics in the Table.

Jennie, Ignorant.—And usually excusable on that account. Jennie was a little girl and I guess she didn't know any better. I don't think, if I were her mother, I should punish her.

Jennie, Explained to.—If I were her mother, I should talk to her kindly, and explain to her how wrong it was to paint the parlor chairs.

Jennie, Don't do it Again.—I should tell the child that she must never do that again.

Jennie, Made to Promise.—I should make her promise not to paint the chairs any more.

Jennie, Threatened.—I should tell her that if she ever did it again I would whip her very hard.

Jennie, Made to Clean the Chairs.—If I were her mother, I would give her a rag and some soap and water, and make her clean the chairs.

Jennie, Confined.—I should put her in the closet for an hour.

Jennie, Loses Meal.—If I were her mother, I wouldn't let her have any supper.

Jennie, Loses Paints.—I should take her paints away and burn them.

Jennie, Sent to Bed.—I should send the naughty child to bed in the day-time.

Jennie, Whipped.—I should give Jennie a good, hard whipping.

Jennie, Punished.—I should punish Jennie for being so bad.

XUM

There were some forms which we put under the general heading of Peculiar Punishments, but they were not numerous enough to be separately collated.

Among the most striking features in the great mass of thought are the reasons given for punishing Jennie. There are three prominent reasons.

The first is clearly for the sake of revenge. Jennie was a bad girl. She made her mother unhappy; she must be made unhappy. She made her mother angry; she must be made angry. Children who take this attitude, do not consider at all the ethical effects of their punishments upon Jennie; in fact, in many cases it is clearly the purpose to throw her into anything but a lovable condition. Here is what a boy of ten says: "I would have sent Jennie to bed and not let her have any supper, and then she would get mad and cry." One is impressed, too, with the evident delight taken in inflicting punishment. In the words of a nine-year-old boy: "If I had been that woman, I would have half killed her." A sweet (?) little girl would make her paint things "till she got enough of it." Another says: "I would have whipped her, and put her in the closet for two hours, and then taken something very nice of hers and paint it all over and let it stay." Often the feeling of revenge is shown in the piling up of punishments, as in the following: "If I had been Jennie's mother, I would of painted Jennie's face and hands and toes. I would of switched her well. I would of washed her mouth out with soap and water, and should stand her on the floor for a half an hour."

It is interesting to trace similarities in the development of the race and the development of children. All barbarous people use revenge as a form of punishment. An Indian in one tribe kills a man in another. It follows, as a matter of course, that the offender is punished by being killed himself or by the death of some member of his tribe. The old Mosaic law of "An eye for an eye," carries with it the same idea. A young child often angrily strikes the chair over which he has fallen, or beats the cat which has accidentally scratched him. We say he shows temper. He is probably in this first stage of development. He doubtless feels that he has a perfect right to get even in some way with that which has caused him pain.

Whipping is the punishment which seems to satisfy best this feeling of pain-giving, so we are not surprised to find whipping more popular with the younger children than with the older ones. Out of 1,000 each of boys and girls of six years, 1,102 would whip Jennie; out of the same number at eleven years, 763; while at sixteen years, only 185 would whip her. Though the decrease is not uniformly less from year to year, the chart shows that as children grow older they are not so likely to consider whipping the best method of punishment.

The second reason for punishing Jennie is to prevent a repetition of the act. She is punished that she may remember not to commit the offense again. Says a thirteen-year-old girl: "I would take her paints away and not let her have them again till she learnt not to do anything like that again." When a threat is used, it is with the same end in view. "I wouldn't do anything just then, but I would of said, 'If you do that any more, I would whip you and send you to bed besides.'" One child, after giving a long list of punishments, closes with: "And make her never do it again."

The object of the punishment is not revenge, not exercise of mere animal passion, but such treatment of the wrong-doer as will result in the cessation of the wrong-doing. It is a kind of punish-

ment that rests on fear and terror, two emotions that are disappearing as disciplinary forces among civilized people. And yet to-day is it not the general aim in public law? We try to terrorize evil-doers. We hang a man for murder in order to prevent further crime of this sort. In all prohibitory laws there are almost certain to be found some traces of this principle.

The third form of punishment is a degree higher still. Jennie is punished in order to reform her. In the previous examples the act was all important. Jennie must not do that. Now Jennie is all important. Her moral condition is the subject to be considered, and the act itself is merely illustrative.

As has been said, the older children whip Jennie very little. They explain to her the wrong she has done. Their reason for punishment is that the wrong-doer may be corrected, reformed. Of 2,000 boys and girls of six years of age, none would explain to Jennie why it was wrong to paint the parlor chairs. Of the same number at twelve years, 181 would explain to her, while at sixteen years the number rises to 751.

"I would have took her with me into the parlor," says a country boy of fourteen, "and I would have talked to her about the injury she had done to the chairs, and talked kindly to her and explained to her how much mischief she had done in trying to please her mother."

A girl says: "I think that the mother was very unwise in losing her temper over something which the child had done to please her. I think it would have been far wiser in her to have kissed the little one, and then explained to her that the paints were not what was put on the chairs to make them look nice."

Another one thinks that "it would have been better to have talked kindly to Jennie and showed her the wrong in doing this without asking her mother, and that if this mother had thought and put herself in Jennie's place before she put Jennie to bed, she would not have done so."

This form of punishment, if punishment it can be called, is attracting the attention of all thoughtful people to-day. When a man commits an act atrocious in itself, we look upon the offender as a diseased organism, and we try to prevent repetition of the offense, not by revenging ourselves upon the aggressor, not by frightening him into an apparent state of right living, but by attempting to have him look at things normally, to see the right as we see it. The conception of punishment for the sake of correction is based upon love; it is long in developing in a people, it is the last to develop in childhood.

Almost as striking as children's reasons for punishment are their attitudes regarding the motive that lies back of the action. The intellectual and moral condition of a man can be fairly estimated by his ability and willingness to judge of the motives which actuate those about him. A marked difference in children regarding motives is noticeable.

The young child thinks of the result of an action. If the result is bad, punishment should follow: if not, the offender should be allowed to go free. A ten-year-old boy writes: "If the girl made the chairs nicer than they were, I would tell her that she was a good girl, and if she soiled the chairs, I would give her a whipping." A little girl voices the opinion of many another when she says: "If I were her mother, I would have whipped her for spoiling the parlor chairs."

Another one, nine years old, seems to us wise elders inconsistent when she writes: "Jennie thought that she was making the

XUM

chairs pretty. But she spoilt the chairs. I would have taken her and I would whipped her and sent her to bed for the rest of the day. I would told her that she was a bad little girl." Equally regardless of good intention is the statement of the child who says: "I would whip her and send her to bed out any supper:" and then adds, as if it were of no importance, "Jennie thought it would make her mother glad."

The older children, on the contrary, think of the motive that led to the action. If this be good, punishment should be light or not at all. Sometimes, because of this feeling, they grow indignant over the treatment of Jennie by the mother in the story.

Says a girl of fifteen: "Now, if I had have been her mother, I would have had the chairs varnished over and made her think that they looked just lovely with another coat of varnish on them, because the poor child thought that she was doing something that would please her mother." A boy of the same age writes: "If I had been the mother, I would not have punished the child, but would have tried to reason with her, showing her that, although her intentions had been good, still she had done more damage than good. I do not think that a person or child who commits a wrong unknowingly deserves any punishment. The motives of the child were certainly of the very best, as she did it solely to please her mother."

These extracts from the children's papers are typical. With the older children, Jennie was ignorant, her motive was right; so, under the heading, "Ignorant," on the chart, we have a continual ascent in numbers from six to sixteen years. At six years old, twenty-three children out of 2,000 speak of Jennie's ignorance and evident desire to do right; at twelve years, 322; at fifteen, 654.

While it is true that age, with its larger experience and added wisdom, plays a prominent part in forming children's ideas of life, it is no less true that other forces wield strong influences, and not the least of these is sex. In punishing Jennie, the boys show much less mercy than the girls. One might imagine that the tendency to forgive woman's sins, so perceptible in man, was inherent and would show all along the line of life, but it is not true.

Five hundred and twelve girls out of 1,000 at twelve years of age, would whip her; 590 boys. At sixteen years, the difference is still wider—fifty-two girls would whip her; 133 boys.

In striking contrast to this, in point of numbers, and giving emphasis to the same tendency are the differences in feeling in boys and girls, as shown in the column, "Explained to." Under eleven years of age, this column is not patronized to any great extent by either sex. At eleven, 129 girls would explain to Jennie, fifty-three boys; at fifteen, 403 girls would explain to her, 270 boys. The girls, too, usually outnumber the boys in considering Jennie well-meaning, but ignorant. Under the head of "Ignorant," 142 ten-year-old girls out of 1,000 speak of her ignorance and good intention, ninety boys; 384 fifteen-year-old girls, 270 boys.

There is much more uniformity shown in what might be called natural punishment. One of these forms carries with it the idea of restitution—Jennie spoiled the chairs—make her clean them.

The other is equally sound in its logic, and consists simply in the withdrawal of a misused privilege. Jennie used paints unwisely—either consciously or unconsciously—take the paints away from her. So, under the headings, "Clean Chairs" and "Lose Paints," we find no strong differences. At one age, the girls are slightly ahead, at the next the boys, and so on throughout all the ages from six to sixteen.

Great uniformity, too, is observed with reference to two other punishments. Threats and forced promises, so common as forms of correction in home and school, make very little impression on children. At six years of age, out of 2,000, none would threaten; at twelve years, thirty-nine; at fifteen years, eighty-five. At six years of age, none would make Jennie promise not to do it again; at twelve years, fifteen would make her promise; at fifteen years, thirty-five. Even the largest of the numbers is comparatively very small, and yet no form of punishment is so common. The gentle mother tells the child she will not love him "if he does that again," or that God will not love him, etc., etc.; while the coarse-grained mind frightens the child by presenting after, "if you do it again," or "unless you promise not to do it again," pictures of dark closets, or hungry stomachs, or black men who carry little children away in bags.

Why threats appeal to children so little, or why forced promises never to do so again affect them so slightly, may possibly be accounted for by the indefiniteness of it all: "I will never do that again," "If you ever do that again." Children have vague ideas of time at best, and "ever" and "never" must be to them exceedingly misty.

There are always two sides to any question. Let us look for a while at the "other side." Many criticisms can be made upon this study, many just objections raised. None more fully realize its defects and limitations than those who have tried in this way to know something of children. No charted result can ever be entirely satisfactory. It must always be more or less imperfect, and in proportion to its imperfections, untranslatable. The little chart accompanying this study is no exception to the rule. By referring to it the reader will see that comparatively few children of six and seven years are represented. Their papers are, of necessity, the most difficult to obtain. Before comparisons were made, all the numbers, it will be remembered, were raised to the standard of 1,000 for each age; and yet it is not quite fair to compare forty-three girls of six years arised to the standard of 1,000, with 515 girls of eleven years raised to the same standard. Aside from this, young children have not the ability to express themselves clearly, either orally or in writing. I think it is not too much to say that most children under twelve are more or less hampered by the mere mechanics of penmanship, punctuation, etc. These facts make the interpretations of the opinions of younger children exceedingly difficult and may account for certain inconsistencies in the chart. One must expect some columns of figures to be irregular, and must give up the inclination to make all of them mean something.

Under the heading "Confined," for instance, the numbers, boys and girls added, read from six to eleven in this variable fashion: 93, 205, 274, 218, 183, 204. After this there is a steady decrease from age to age. The column "Threaten" at eleven years numbers seventy-two, at twelve years only thirty-nine. This great difference is not surprising when one notices that at eleven years the opinions of 682 children were gathered, and at twelve years those of only 384. A sudden "falling away" at twelve years occurs under several other headings, probably for the same reason. It just happened that more papers were sent us from children of eleven years old than from those of twelve.

At seven and eight years more boys than girls are found under "Explained to." After that, without exception, more girls than boys. This makes one feel that the collation of a larger number of opin-

XUM

ions more equally divided as to age and sex, might give different results at the ages of seven and eight.

The forms of punishment themselves may be administered in so many different ways and with so many variations that it is hard to attach a definite meaning to each, and to know that one has the child's meaning of the word. This, perhaps, accounts for the irregularity of the numbers under the indefinite word "Scolded." "Whipped," too, may mean a cruel beating to one, a few light blows to another. It is not astonishing, therefore, to find that while the chart shows beyond question that older children are less inclined to use this form of punishment than the younger ones, it does not picture a regular decrease year by year in the number of children who would use it.

The data were gathered from the schools. All children sixteen years of age and over were classed as sixteen. Most of the papers were from primary and grammar grade schools. Boys and girls who are in the grammar grades at sixteen years of age are not fair types of the average child at that age. They are more or less immature, either from lack of opportunity to know or from inability to learn.

It is possible that the conclusions reached regarding the merciful tendency, the tendency to consider motives, etc., might have been more marked had the older children been as nearly normal as those of the other ages.

There are many criticisms to be made upon the story itself. Weaknesses were discovered as soon as the first papers from the children arrived. The fact that the sex of the child is given is unfortunate. Boys might have dealt differently with a boy; girls might not have been so merciful. On the other hand, it would have been better to have stated definitely the age of the child. Not a few of the youthful "mothers" were doubtful as to Jennie's punishment, because they were not sure whether or not she was "old enough to know better." The fact that the mother in the story sent her little girl to bed and took her paints away, predisposed the children to punish Jennie and to make sending to bed and taking the paints away very popular. The indifferent and less original children would have done just as the mother in the story did, while the more aggressive ones used these punishments to swell their own lists. Below twelve years of age "Lose Paints" and "Sent to Bed," as forms of punishment, are second only to "Whipped," though supplemented by an almost equal number under "Explained to" and "Ignorant." One cannot help questioning what the result would have been had the children received a different suggestion regarding punishment, or better still, none at all. It may be that all of them would have been more tender in their treatment of the well-meaning child. We should like to think so, for the evident delight expressed by hundreds of younger children in hurting and humiliating poor Jennie was anything but pleasant reading. One who was collating with us would sometimes throw down the pen, exclaiming, "I won't go on! The little wretches!"

Their cruelty in whipping, however, was partially forgotten when we looked at the heading, "Clean Chairs." The desire of a punishment of restitution was apparent. Children of all ages and sexes were pretty evenly divided in their feeling that Jennie should clean the chairs. But surely this desire must have been very much lessened among the older ones, because they realized the impossibility of Jennie's ever being able to undo what she had done. They considered the chairs ruined, and so no large number are found using this most natural form of punishment. The story again is to

blame for this. Either the statement should have been made that the chairs were completely spoiled,—that would have shut off this punishment,—or Jennie should have been made to paint something from which the paint could have been removed and leave no trace.

If, however, the latter were chosen, severity in punishment would probably have been greatly lessened. As the story read, there were three thoughts: The paint could not be removed, the paint could be removed, doubt concerning it. There should have been no possibility of misapprehension. The facts of the case should have been as clear to the pretending mothers as they were to the real mother represented in the story.

But had our story been ideal in every respect, and had we been able to get exactly the same number of papers from each age and sex, it is suggested that even then our study is worth little because we do not get the real thoughts of the children. Undoubtedly, especially among the younger children, the punishments inflicted upon Jennie are such as they themselves would have received under similar circumstances. It is almost impossible to know whether the child is expressing his own feeling, or whether he is giving us a picture of his home and school life. Their answers make us think of James Whitcomb Riley's

"SCATTERING REMARKS OF BUB'S."

I *ruther* go to the circus-show,
  But 'cause my *parunts* told me so,
I ruther go to the Sunday-school,
  'Cause there I learn the golden rule.
Say, Pa,—what *is* the golden rule
  'At's allus at the Sunday-school?

Granted that the children do give us what they have been taught rather than what their native instinct would prompt, that what they give us is the result of their environment rather than their actual thoughts, they nevertheless give us truth. For philosophical purposes it would be necessary to have the real thoughts of the children clear, well-defined, unhampered by the practices and prejudices of those with whom they live. For educational purposes we want to know the actual concrete child. The actual concrete child is impressionable. He is imitative. He is full of faith. He adopts the views of those about him whom experience has taught him to trust. If a boy's father is a Democrat, he is likely to cast his first vote as a Democrat, and yet when he is twenty-one and fairly intelligent, we do not accuse him of having no thoughts. Could he have voted at ten years of age he would also have voted the Democratic ticket. He would have done so then because his father was a Democrat, but his vote as a child would have been as true an expression of his feeling as a child as his vote as a man was an expression of his feeling as a man.

There are two ways of getting rid of the teachings and getting nearer the child's own thoughts. By collating a large number of children's opinions of each age and noting common tendencies, we eliminate something of home and school teaching, for they can not all have received the same training. By gathering papers from as many sources as possible, from mountain cabins and elegant city homes, from sea-shore, and farm, and mine, from rich and poor, from Jew and Gentile, from Italian and Irish, and American, we also eliminate something of environment. Certainly the ignorant, hard-working, tired mother in the mountain cabin does not punish

XUM

her child in the same way as the refined city woman of wealth, leisure, and education. If, then, we discover a common element running through childhood regarding punishment, there must be some little trace in it of natural tendency.

There is still another criticism that might be made upon the study, and that is that the children themselves did not try to be true, to answer honestly, that they took the whole thing as a joke and put down their answers at random. The only reply to be made to this is to say that we believe it is false. There was an earnestness in the answers received, an uncollatable evidence of desire to express an opinion shown in all the papers. No unprejudiced person could read those three thousand papers without feeling that the children tried to express their own thoughts. This feeling may have scientifically no value, but it is certainly worth as much as the feeling of distrust regarding the children's answers on the part of those who have given the subject no special thought.

To put it briefly, the following adverse criticisms upon the study can be made: The chart showing the results of collation does not tell the truth. We have tried to show that we realize that it is not infallible and that we know why.

Children give the thoughts of their elders in answering the questions rather than their own instinctive feelings. Granted.

The answers are not to be depended upon, they are not honest and earnest. Denied.

With all the mistakes in the story itself, with all the failures to determine the children's attitudes, perhaps the question will be asked, "Has it paid? Has the work been worth while?" We answer unhesitatingly, "Yes." We feel justified in making the following statements:—

Young children are less merciful than older ones. When they appear cruel and resentful, we know that they are exercising what they honestly consider the right of revenge.

Boys are less merciful than girls.

Young children judge of actions by their results, older ones look at the motives which prompt them. If a young child disobeys a command and no bad result follows, he doesn't see that he has done wrong.

Punishments which have in them the idea of restitution are common to all ages.

Girls consider the why more than boys; they explain to Jennie oftener than boys do.

Threats and forced promises do not impress children.

Whether one feels that children should be allowed to develop naturally or should be corrected and turned aside or helped through some of the unlovely periods, no matter what his ideas of education may be, it is well for him to know the truth before he acts.

In order to verify the results and correct some of the errors of this study, the "story" has been re-written as it appears below and sent out to other children of the state. When three thousand opinions from this story have been received, they will be collated and charted as the others were, and then the two studies will be compared.

Once a mother gave a child for a birthday present—the child was just six years old—a beautiful box of paints. In the afternoon while the mother was busy in another room, the child painted all the parlor chairs so as to make them look nice and then called out, "Oh, mamma, come and see how pretty I have made the parlor." The paint could not be washed off and so the chairs were spoiled. What would you have said or done had you been the child's mother?

EDUCATION BY PLAYS AND GAMES.

By G. E. Johnson, Scholar in Clark University.

On the Nature of Play.—"Play is the first poetry of the human being. It is the working off at once of the overflow of both mental and physical powers." Thus Richter defines play. Froebel says it is the self active representation of the inner from inner necessity and impulse. The distinctive characteristic of play is spontaneity. In the above, Richter emphasizes the spontaneity which is dependent upon physical conditions. Froebel, that which is dependent upon the mental attitude. In the healthy child there is a constant storing up and expenditure of energy. The over-filled or rested cells *must* discharge. They may be likened to an intermittent spring which, becoming so full, must empty. This rhythmic sequence of anabolism and katabolism seems to be nature's method of activity for the securing of growth and development. When katabolism follows spontaneously upon completed anabolism, the discharge is accompanied with pleasure. This is the exuberance of life which impels the young child to leap and dance with no apparent object but that of motion. The very discharge is a joy, a relief. When anabolism is incomplete and katabolism takes place, or when katabolism is induced by force of will or fear, the accompanying consciousness is one of unpleasantness or pain. Compel a child to jump rope, after fatigue has set in, and it is no longer pleasurable, but painful. Spontaneity is gone.

The mental attitude is no less important than the physical conditions in the spontaneity of an activity. The physical conditions being favorable, the distinction between play and what is not play is wholly subjective, a question of "mental attitude." Just what this mental attitude is, is not easy to define. It is often capricious. It is coincident with an expectation of pleasure. Mark Twain gives an illustration in "How Tom Sawyer Got His Fence Whitewashed." Whitewashing was grinding drudgery to Tom, but when anticipations of pleasure had been aroused in his playmates and they had taken the brush at the sacrifice of sundry trinkets, whitewashing had become play. It generally involves imagination. To Mr. Bolton is due this story of a stone pile which a father found much difficulty in getting his boys to remove: Two weeks had passed and the pile had not perceptibly diminished. Kindling a brush fire in the ditch where the stones were to be thrown, and improvising a fire engine out of a cart, he exclaimed: "Come, boys, here's a fire! Let's be firemen and put it out. This is the engine and these are buckets of water (pointing to the stones). Come on!" And with shouting and whistling and puffing, the stones were dragged and dumped until the pile had disappeared.[1] There is always an accompanying

[1] This story was taken from the records of children in possession of the Graduates' Association of the State Normal School at Worcester, Mass.

XUM

mental excitement which, especially in games, is largely due to an uncertainty in the outcome. Take this entirely out of a game and the play becomes insipid monotony. On the other hand, I have known a boy to relieve truly drudging labor by fixing beforehand the amount to be done at a certain hour and racing against time. It must await present interest. Compel a boy to continue quietly his game of marbles after an alarm of fire has sounded in his neighborhood, and play has changed to labor.

In play, pleasure always accompanies the activity. There may or may not be some additional reward resulting from the activity. In labor, the reward does not accompany, but follows the activity. A boy plays ball and pleasure attends every movement. There may also result greatly improved health and skill of hand and eye, sometimes even a pecuniary reward. A boy saws wood and the reward is the increase of strength and the money received alone. Work (effort directed to an end—*Webster*) is involved in both, generally to a greater degree in play.

Its Importance in Education.—A clear understanding of the nature of play is of the highest importance to teachers. Play is deserving of better repute than that in which it is sometimes held, and labor receives often a praise that is hardly due. There is no virtue in labor for the sake of labor any more than there is virtue in self-denial for self-denial's sake, or virtue in being miserable. Work is the honor term. Every good thing accomplished in life is accomplished by work, but this work may often be the work of play quite as well as the work of labor. Work does not thereby accomplish more because it is laborious and irksome. As Dr. Brinton says: "The measure of value of work is the amount of play there is in it, and the measure of value of play is the amount of work there is in it." From the very fact that joyousness aids the anabolic processes, while pain retards, the more play the more work and the more power to work, the more labor the less work and the less power to work. Every effort to make attractive and interesting the school work of children, every effort to bring the order of studies into line with the child's present interest and stage of development, is a recognition of this. For the success of teaching, both as to amount of knowledge acquired and the discipline received, it is essential that there be all possible play in the work. Nobody will deny that the intensity of the activity in any exercise and the beneficence of its results increase with the pleasure involved. It is a platitude to say that no one ever made marked progress in a study he detested, or rose high in a profession he never enjoyed. The men who have stood high have been those who played as well as plied their trades and professions. Stupidity is but another name for ennui, and brightness for interest. "All work and no play makes Jack a dull boy," is as true a pedagogical aphorism as ever was written. To acquire alert minds children must be alert, and the young child can be alert only as his play instinct is aroused. Shut out the play instinct of a young child and you stunt his growth, neglect to draw it out and you lessen his possibilities for strength. It is to be regretted that in our public school system the play instinct of the child does not find more room for expression. In many schools the office of the playground is to counteract the stultifying effects of the school room. "If," as Schiller says, "man is wholly man only when he plays," we err in hoping to make a child more of a man while we force him from the truest expression of himself.

It will no doubt be objected that the child should early be taught to distinguish between play and labor and bravely undergo the latter, for he must labor and not play through life; that great men

have always, "while others slept, toiled upward in the night." Certainly work must be done at all hazards, if not in play, then in labor. But the child should not be led to expect a life of toil. Rather he should be taught that a life of play-work is the ideal, and that it is his privilege to seek it. There is no proof that great men "toiled upward in the night," except as they were borne over the drudgery in the eagerness of their interest, as a tennis player again and again "shacks" the widely batted tennis ball. It was the labor involved in play. It is doubtful if a great man ever accomplished his life work without having reached a play interest in it. The power of work and endurance said to be acquired by the conscientious student in undergoing drudgery never equals that which is his when his work is no longer labor, but play. Mr. Yoder, in his "Study of the Boyhood of Great Men," shows that as boys they not only revolted sometimes against the routine of uninteresting work, and followed their own inclinations, but, much more, they found play in a work or work in a play that disciplined those powers which made them famous as men. Dickens playing for days that he was some character of whom he had read, Darwin with his passion for collections, Stevenson with his boilers, Tennyson and Emerson writing rhymes for fun, Washington playing soldier, Kingsley preaching little sermons, Miss Alcott with pencil and paper, are illustrations.

Much has been said by educators in regard to the importance of the play instinct in education. Plato: Education should begin with the right direction of children's sports.[1] The plays of children should be subject to laws.[2] The plays of children should be along the line of their future occupations.[3] "Do not use compulsion, but let education be a sort of amusement."[4] Aristotle: Children should have entertaining employment.[5] Quintilian: Instruction should be amusing to the child. Fénelon: Plays are efficacious in education. Rabelais: Studies should be made amusing and interesting.[6] Locke: "The chief art is to make all that children have to do sport and play."[7] Richter:[8] "The plays of children are as serious and full of meaning in themselves and in reference to their future as ours are to ours." Froebel:[9] "Play is the purest, most spiritual activity of men at this stage, and at same time typical of human life as a whole, of inner hidden natural life in men and all things. It holds the sources of all that is good. The plays of children are the germinal leaves of all later life."

Object of Present Study.—The object of this study is to present somewhat more concretely than has been done before the educational value of play, and to suggest some practical applications to the work of education in the grades above the kindergarten.

The method of study was as follows: Literature bearing on the nature of play, its educational importance, and books of games were consulted. Questions were circulated, mostly among teachers, designed to obtain data on observations of children at play, reminiscences of play, and lists and descriptions of favorite games from the children themselves.

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[1] "Laws," I., 643.
[2] "Laws," VII., 797.
[3] "Laws," I., 643.
[4] "Rep.," VII., 537.
[5] "Pol." Book, VII., 17.
[6] For this and following see Translator's note, Froebel's "Education of Man," International Education Series, pp. 22, 23.
[7] Locke, as well as Basedow, invented games for teaching letters and reading and suggested others.
[8] "Levana," Chap. III., Frag. III.
[9] "Education of Man," § 30.

XUM

For convenience play was divided into two classes, formal and informal, or games and plays. Almost the entire effort in this study has been devoted to games, but just a word here needs to be said about plays. The field of the study of play is very wide; the plays are well-nigh infinite and as varied as life itself. No one can estimate the value of them. Given right toys and surroundings, the young child has an almost perfect school. It is marvelous how well he learns. Preyer does not overestimate the facts when he says the child in the first three or four years of his life learns as much as the student in his entire university course. In the making of mud pies and doll dresses, sand-pile farms and miniature roads, tiny dams and water wheels, whittled-out boats, sleds, dog harnesses, and a thousand and one other things, the child receives an accumulation of facts, a skill of hand, a trueness of eye, a power of attention and quickness of perception; and in flying kites, catching trout, in pressing leaves and gathering stones, in collecting stamps, and eggs, and butterflies, a culture also, seldom appreciated by the parent or teacher. It is not a low order of manual training, of science lessons, of physical culture, the child receives here. And it was no mean training even for citizenship that the children of the "Story of a Sand Pile" received from their carefully laid out lots, fences and roads, their houses and barns, their tax-collecting, coinage of money, and town meetings. If the teacher knew just when a child would take to this or that play, just when the mania for stamps, egg hunting, or roaming in the woods is likely to seize upon a boy and should add to the fever of the desire and make the school-room the headquarters for sympathy, inspiration and exhibition, the effectiveness of the school would be not a little increased.

To this kind of play Maurice Thompson pays a tribute in "The Boy's Book of Sports." "The greatest scientists, philosophers, artists and poets of the world in all ages have been ready to bear testimony to the debt they have owed to outdoor observations." "No man is liberally educated who does not know as much about nature as he does about books." "The school of the woods and hills, fields and streams, is that from which our greatest thinkers have been graduated." And of its value as a physical training Prof. Mahaffy says not athletics of the gymnasium and palæstra, but "field sports—hunting, shooting, fishing—have produced the finest type of man."

In the study of games it was attempted to review nearly all games described in English and not a few in German. A card catalogue was first made. On the cards were written the name of the game, a number referring to the book in which a description could be found, the essential features of the game, and its educational value. From this catalogue was made the accompanying table, about one-half of the games being entered in the table. The table has three columns, the first containing the name of the game, the second a number referring to the book in which it is described, and the third the abbreviations indicating the educational value.

Of course a table of this kind can not be exact. The writer feels that it contains many defects. Very few, perhaps, will agree with him in most points in his estimation of the several games, and no one in all. But it is thought that in the main it is correct, and exact enough for its purpose. No attempt has been made at classification, except in some instances where games similar in value have been grouped together for convenience in tabulating. It is thought that nearly every game of much value, or at least a representative of each class of valuable games, may be found in this table. It is hoped that teachers and parents will find it serviceable not only

in selecting games for general use, but in selecting particular games for their specific educational value. From this table the teacher or parent can easily make out a list of games adapted to her school or her children, or select such game or games as will have a corrective or specific disciplinary use. It is believed, for example, that a child of weak power of attention and memory, or of observation, or a child not strong in chest or legs, may be greatly benefited by judicious choice and tact in the selection and guidance of his games.

The following is a list of the rubrics used, and their symbols, which are as nearly as possible simple abbreviations of the respective words:

Ab.,	Abdominal Muscles	L.,	Language
Arith.,	Arithmetic	Lit.,	Literature
As.,	Association	M.,	Mind
At.,	Attention	Mem.,	Memory (recalling)
B.,	Body	MS.,	Muscular Sense
Biog.,	Biography	Mus. Con.,	Muscular Control (steadiness)
Bk.,	Back		
C.,	Calf	N.,	Neck
Ch.,	Chest	O.,	Oral Expression
C. of L.,	Control (of laughter)	Ob.,	Observation
Comp.,	Composition (written)	Pa.,	Patience
Cour.,	Courage	Per.,	Perseverance
D.,	Discrimination	Pros.,	Prosody
Draw.,	Drawing	Q.,	Quickness
E.,	Eye	R.,	Reasoning
Ear,	Ear	S.,	Singing
En.,	Endurance	Self-pos.,	Self-possession
Gen. Ex.,	General Exercise	Sp.,	Spelling
Geog.,	Geography	T.,	Touch
Gram.,	Grammar	Th.,	Thigh
H. A.,	Hand and Arm	W.,	Waist
His.,	History	Will,	Will (determination, decision)
Im.,	Imagination (constructive)		
J.,	Judgment	Wit,	Wit

Four grades of excellence or activity are indicated in the table. An abbreviation, printed in CAPITALS, signifies that the game calls for great activity, or is of special value in the particular denoted by that abbreviation; printed in SMALL CAPITALS, that it is excellent; printed in *italics*, that it is good, and in Roman lower case, that it is fair. For example: In the table is found Base Ball, M.B., E. MS. AT. D. J. WILL, SELF-POS. COUR. Q. H. A. TH. C., *r. ch. b. w. ab. n.*, GEN. EX. This may be read: Base ball calls for great activity of mind and body, is excellent for the eye, muscular sense, attention, discrimination, judgment, will, self-possession, courage, quickness, hand, arm, thigh, calf; good for reasoning, chest, back, waist, abdominal muscles and neck, and is specially valuable as a general exercise. Come With Me — m. b., *at.*, q. h. a., CH. TH. C., *i. e.*, mind is only fairly active, body very active, good for attention, fair for hand and arm, excellent for chest, thigh, calf.

TABLE.

1	Acting Proverbs,	1 M., *as. mem. im.*
2	Adjectives,	1 *m., gram.,*
3	Adventurers,	2 M., *geog.*
4	Adverbs,	13 *m., as. o. gram.*
5	Æsop's Mission,	2 *m., ab.*
6	Agon,	1 M., *ob. j. r.*

XUM

7	Alliteration,	1	M., *comp.*
8	Alphabet Games,	1, 2	M., OB., *sp.*
9	Anagrams,	1	M., OB., *sp.*
10	"Angling,"	2	*b. h. a. mus. con.*
11	Animal Acting Missing Letter Game,	13	*m., as. mem. o. l. sp.*
12	Archery,	7	M. B., E. J. H. A., *gen. ex.*
13	Artists' Menagerie,	2	M. b., *im. draw.*
14	Assumed Characters,	9	M., *as. mem.*, IM. L. O., *lit. his. biog.*
15	Athletic Games,	1	*m.* B., *e. at. j. will, en.*, H. A. CH. BK. W. AB. TH. C.
	Broad Jumps,		TH. C.
	High Jumps,		TH. C.
	Kicking Foot Ball,		TH.
	Pole Jump,		H. A. TH. C.
	Pole Vault,		H. A. TH. C.
	Putting Shot,		H. A.
	Running,		CH. TH. C. EX.
	Throwing Base Ball,		H. A.
	Throwing Hammer,		H. A. W. AB.
16	Authors,	1	M., *at. mem. biog. lit.*
17	Backgammon,	1	m., ob. j., *arith.*
	Similar to this—		
	Checkered Game of Life.		
	Race Games,		
	Race Round the World,		*geog.*
	Parchesi,		
	Other dice and teetotum games.		
18	Badminton,		See Tennis.
19	Bagatelle,	1	*m. b., e. ms. j.*, h. a.
20	Balloon Ball,	2	M. B., E. MS. AT. J. H. A., *bk. w. ab. th. c.*
	Similar to this—		
	Bean Bag,		" "
	Catch Ball,		" "
	Circle Ball,		" "
	Corner Ball,		" "
	Days of the Week,		" "
	Feeder,		" " BK. W. AB. TH. C.
	Fungo,		" " W. AB.
	Haley Over,		" "
	Play of the Queen,		" " TH. C.
	Roll Ball,		" "
	Rounders,		" " BK. W. AB. TH. C.
	School Ball,		" "
	Stool Ball,		" "
	String, or Return Ball,		" "
	Two Old Cat,		" " TH. C.
	Wicket,		" " BK. W. AB., *th. c.*
21	Base Ball,	1	M. B., E. MS. AT. D. J. WILL. SELF-POS. COUR. Q. H. A. TH. C., *r. ch. bk. w. ab. n.*, GEN. EX.
22	Basket Ball,		M. B., *e. ms. at. j. will*, H. A., AB., BK., W., TH. C., GEN. EX.
23	Baste the Bear,	2	*b., h. a. th. c. gen. ex.*
24	Battle Ball		M. B., *e. ms.*, AT., *j. h.*, A., CH. BK., AB. W., TH. C., *n.*, GEN. EX.
25	Battledoor and Shuttlecock,	1	*m.* B., *e. ms.*, AT., *h. a. th. c.*, GEN. EX.

26	Battle for the Banner,	2	m. B., *will. en.*, H. A. CH. BK. W. AB. TH. C., GEN. EX.
27	Bean Bag Contest,	1	m. *b.*, *self-pos. h. a.*, Q.
28	Beast, Bird or Fish,	13	*m.* b., *at. mem. q.*, h. a.
29	Billiards,	1	M. *b.*, E. MS. D. J., *h. a. bk. w. th. c.*
	Similar to this—		
	Pool.		
30	Bird Catcher,	13	*m. b.*, *at. q.*, h. a.
31	Birds Fly,	1	*m.* b., AT., h. a.
32	Black Man,	14	*m.* B., j. h. a., *en. per.*, CH. TH. C. Q., *w. bk. ab.*, GEN. EX.
33	Blank and Ladder,	3	See I Spy.
34	Blind Beggar,	11	See Garibaldi.
35	Blind Man's Buff,	1	m. *b.*, *ear. t. cour. gen. ex.*
	Similar to this—		
	Blind Postman,	2	
	Cat and Mouse (Blind)		EAR.
	Jacob,		
	Jingling,		
36	Bloody Tom,	13	*m. b.*, *im. h. a. ch. bk. w. th. c.*
37	Blowing Out Candle,	12	*b. ch.*
38	Blue Birds and Yellow Birds,	3	See Round Games.
39	Bobichon,	1	m. *b.*, j., *pa. ms. mus. con.*
40	Book Binder,	1	*m. b.*, AT., *h. a.*, Q.
41	Boomerang Game,		M. B., *e. ms. at. j. self-pos. q. h. a. ch. bk. w. ab. th. c.*, GEN. EX.
42	Bound Hands,	7	B., H. A. CH. TH. C.
43	Bowling,	1	M. B., E. MS. H. A. BK., *th. c. w. ab.*
	Similar to this—		
	Bowls,		
	Brownie Ten Pins,		
	Cocked Hat,		
	Curling,		
	German Balls,		
	Parlor Bowls,		
	Red, White and Blue,		
	Shuffle Board.		
44	Boxing,	1	M. B., E. MS. AT. D. WILL, SELF. POS. COUR. EN. Q. H. A. CH. BK. W. AB. N. TH. C., GEN. EX.
45	Broadsword,	2	*m. b.*, E. MS. AT. H. A., *ch. bk. w. ab. th. c.*
46	Brother Jonathan,	2	See Pitching Games.
47	Brownie Ten Pins,		See Bowling.
48	Bubble Bowling,		*m. b.*, *c. ms.*, CH.
49	Buck, Buck, How Many Figures?	1	m. *b.*, *h. a.*, BK., *th. c.*
50	Buff Says Baff,	2	See Laughter Games.
51	Buff Shadow,	12	*m.*, *ob. mem.*
52	Buff with the Wand,	2	*m.*, *ear.*
53	Bull in the Ring,	1	m. B., *d. per.*, H. A. BK. TH. C., *ch. w. ab. gen. ex.*
	Similar to this—		
	Here I Bake and Here I Brew,		
54	Bumble Bee in the Garden,	13	*m. b.*, *at.*, gen. ex.
55	Buried Cities,	6	*m.*, OB.
56	Buried Words,	1	*m.*, OB.
57	Butterfly and the Flowers,	13	*m.*, *mem. o. l.*

XUM

58	Button, Button,	1	m. b., ob. h. a.
59	Buttons,	1	Pitching Game.
60	Buzz,	1	M., AT., *arith.*
61	Buzz, Fizz,	1	M., AT., *arith.*
62	Cannonade,	2	m. b., arith. h.
63	Capping Poetry,	2	M., *mem. as. lit.*
64	Capping Verses,	1	M., *mem. as. lit.*
65	Cartoons,	13	*m.*, AS., *im. draw.*
66	Cat and Mouse (Blind),	2	See Blind Man's Buff.
67	Cat and Mouse,	13	*m.* B., AT. H. A., *gen. ex.*
68	Catch Ball,	14	See Ball Games.
69	Cat's Cradle (32 forms),		*m. b., e. im. d. mem. h. a.*
70	Century Court,	1	M., *mem. as. his.*
71	Change Seats,	13	m. b., *at.*, gen. ex.
72	Characters,	1, 5	M., *as. mem. his. biog.*
73	Charades,	1	M. b., *as. im.*
74	Checkers,	1	M., OB. D., R.
	Similar in effect—		
	Farona,		
	Fox and Geese,		
	Go Bang,		
	Morrill,		
	Nine Men's Morris,		
	Pyramids,		
	Quadralet,		
	Seega.		
75	Checkered Game of Life,	1	See Backgammon.
76	Chess,	1	M., OB. D., R.
77	Circle Ball,	14	See Ball Games.
78	City of Rome,	13	M., AT. AS. MEM.
79	Club Fist,	12	See Laughter Games.
80	Clumps,	6	M., D. AS. R.
81	Cobbler, The	13	*b.*, h. a., *bk. w.*
82	Cocked Hat,	1	See Bowling.
83	Cock Fighting,	2	B., h. a., *bk. w. ab.*, TH. C.
84	Colors,	3	See Tug of War.
85	Come, It Comes,	13	*m., ob.*
86	Come With Me,	14	m. B., *at. q.*, h. a., CH. TH. C.
87	Compliments,	1	M., *wit.*
88	Conundrum Game,	13	*m., as., im.*
89	Conveyances,	2	M., *as.*, MEM., *geog.*
90	Copenhagen,	1	m. b., *at.*, h. a., *q.*
91	Corner Ball,	3	See Ball Games.
92	Cork, The	2	*m.* b., *e. j.*
93	Corn and Beans,	1	*m.*, AT.
94	Crambo,	13	M., *as. wit, pros. comp.*
95	Crambo,	1	*m., as.*
96	Cricket,	1	M. B., E. MS. AT. J. WILL, *r.*, SELF-POS. COUR. Q. H. A. TH. C., *ch. bk. w. ab.*, D., GEN. EX.
97	Crockinole,	1	m. b., *e.*, ms. h. a.
98	Croquet,	1	*m. b., e. ms. d. j. h. a. bk.*, th. c., *gen. ex.*
	Similar to this—		
	Lawn Billiards,		
	Parlor Croquet.		
99	Cross Tag,	1	m. B., *e.*, j., *per. en. q.*, h. a., CH. TH. C., *bk. w.*
100	Cup and Ball,	1	*m. b., e. ms. h. a.*

101	Cupid is Coming,	1	*m., gram.*
102	Curling,	1	See Bowling.
103	Cushion Dance,	13	B., H. A. W. TH. C.
104	Dancing for the Cake,	13	B., EN. C. TH.
105	Dancing Pea,	2	*b., ch.*
106	Darby Jig,	3	B., TH. C.
107	Dart and Target,	2	m. *b., e. ms.*, h. a., CH.
108	Day and Night,	4	m. B., *at.*, Q., h. a., CH. BK. TH. C., *w.*, GEN. EX.
109	Days of the Week,	2	See Ball Games.
110	Decapitations,	2	See Riddles.
111	Definitions,	2	M., D. J. R. L.
112	Den,	13	m. B., ob. j., *q.*, h. a., CH., *bk. w.*, TH. C. GEN. EX.
113	Dinner Party,	13	*m., as. mem.*
114	Disco,		*m.* b., *e. ms. at. j. h. a. q.*
115	Dissected Maps,		M., *geog.*
116	Dictionary,	1	M., OB. SP.
117	Dixie's Land,	1	m. B., *at.*, j., *q.*, h. a., CH., *bk. w.*, TH. C. GEN. EX.
118	Do, Do Pity My Case,	3	See Round Games.
119	Dominoes,	1	M., ob. m. j., *arith.*
120	Doublets,	1	*m., d.*
121	Down She Comes as White,	3	See Round Games.
122	Draughts,	1	See Checkers.
123	Drawing the Badger,	2	See Fox.
124	Drawing the Oven,	2	B., H. A. BK. W. AB., *th. c.*
125	Drill Sergeant,	2	See Laughter Games.
126	Dropping the Handkerchief, Similar to this—Hunt the Squirrel.	1	m. *b. at q. ch. th. c.*
127	Duck and Drake,	2	m. *b., ms. h. a.*
128	Duck on a Rock,	1	*m.* B., *e. ms. ob.*, J. Q. H. A., *c. bk.*, w. ab., *th. c. pa.*
129	Echo,	13	*m., at. mem.*
130	Egg Hat,	2	*m.* B., *e. ms. q. h. a.*, th. c. w. bk.
131	Elements,	10	*m.*, AT.
132	Enchanted Princess,	3	m. *b., im. ch. th. c.*
133	Europe, Asia, Africa,	13	M., AT., *mem. q. geog.*
134	Extractions,	2	M., *ob. sp.*
135	Faba Gaba,	1	See Pitching Games.
136	Famous Men,	1	M., *as. mem. biog. his.*
137	Famous Numbers,	1	M., *as. mem. his.*
138	Fanorona,	1	See Checker Games.
139	Farmer, The	13	*m. b., mem. im. s.*, gen. ex.
140	Fast Runners,	1	m. B., *at.*, j. h. a., *q.*, CH., *bk. w.*, TH. C.
141	Feather Game,	12, 13	*b.*, CH.
142	Farmer in the Dell,	3	See Round Games.
143	Feeder,	2	See Ball Games.
144	Fencing,	1	M. B., E. MS. AT. D. J. WILL. Q. H. A. CH. W. AB. TH. C., bk. B., GEN. EX.
145	Finger Plays (18),		M. *b.*, E. AT. OB. MEM. IM., *h. a.*
146	Fisherman,	13	*m. b., at. h. a. q.*
147	Fives,	2	See Hand Ball.
148	Five Geese in a Flock,	13	m. *b., at. q.*, TH. C., *bk. w. ch.*
149	Five Minute Conversations,	9	M., *l.*
150	Flour Drummer,	13	*m., at. d.*

XUM

151	Fly Away,	1	See Marble Games.
152	Fly Away, Jack,	13	*m., ob. d.*
153	Flying,	2	*m. b., at. self-pos. mus. con.*
154	Flying Cones,	2	*m. b., mus. con.*
155	Fly the Garter,	2	See Leap Frog.
156	Follow My Leader,	1	m. *b., at. cour. gen. ex. varying.*
157	Follow Tag,	14	*m.* B., AT., *q. self-pos.*, h. a., CH., *bk. w.*, TH. C. GEN. EX.
158	Foot-and-a-Half,	1	See Leap Frog.
159	Foot Ball,	1	M. B., E. MS. AT. D. J. *r.*, WILL. SELF-POS. EN. PA. COUR., *q.*, H. A. CH. BK. W. AB., *n.*, TH. C. GEN. EX.
160	Foot Ball, Association,	1	M. B., *e. ms. at. d. j. will, self-pos.*, END., *cour. q. h. a.*, CH., *bk. w. ab.*, TH. C., n., GEN. EX.
161	Four Back,	1	See Bowling.
162	Fox,	2	*b., h. a.*, TH. C., *gen. ex.*
163	Fox and Geese,	1	See Checker Games.
164	Fox and Geese,	1	m. *b., j. per.*, CH. TH. C.
165	French and English,	2	See Tug of War.
166	French Hop,	2	See Hop Scotch.
167	French Pilgrims,	2	M., *pros.*
168	Frog Pond,	3	*b.*, TH. C.
169	Fungo.	1	See Ball Games.
170	Game of Logic,		M., R.
171	Game of Noted Men,	9	M., AS. MEM., *bug.*
172	Game of Poets,	8	M., MEM., *lit.*
173	Garibaldi,	11	*m., at. d.*
	Similar to this—		
	Blind Beggar,		
	Our Old Granny Doesn't Like Tea.		
174	Genteel Lady,	1	M., AT., as., MEM.
175	Geography Games (4),	1	*m., geog.*
176	German Balls,	1	See Bowling.
177	Ghost in the Cellar,	3	m. *b., im. ch. th. c.*
178	Giant Stride,	2	B., H. A. CH BK. W. TH. C., GEN. EX.
179	Golf,	1	M. B., E. MS. D. J. H. A., *ch.*, bk., *w.*, ab.
180	Graces,	1	m. *b., e. ms. at. j. h. a. th. c.*, BK. W. AB., *gen. ex.*
181	Grandmother's Cat,	13	*m., as. mem. gram.*
182	Grand Mufti,	1	See Laughter Games.
183	Green Gravel,	3	See Rounds.
184	Green Grow the Rushes O,	3	See Rounds.
185	Green Wolf,		See I Spy.
186	Guess,	13	*m.*, AS., OB.
187	Go Bang,	1	See Checkers.
188	Good Fat Hen,	1	See Repeating Games.
189	Go Round and Round the Valley,	3	See Rounds.
190	Gymnastic Feats,	7, 4	m. *b., will, per.*
	Breast to Mouth,		*h. a.*
	Bump Knee,		TH. C.
	Catch Penny,		*e. h. a.*
	Chaining the Leg,		*ms. th. c.*
	Dot Carry Two,		H. A. BK. W. TH. C.

	Finger Feat,		*h. a.*
	Flying Book,		*th. c.*
	Hand Wrestle,		H. A. B. W. A. BK. TH. C.
	Indian Wrestle,		*ab.*, TH., *c.*
	Jumping Through Fingers,		*h. a. b. ab. th. c.*
	Knuckle Down,		*th. c.*
	Lifting Chair by Round,		H., *a.*
	Long Reach,		H. A. BK. AB. TH., *c.*
	Pulling Sticks,		*will, en.*, H. A. BK. W. TH. C.
	To Take Chair from Under,		AB. N.
	Touching Toes,		BK.
191	Gypsy,	13	*m. b., ob. im.*, j., *ch. th. c.*
192	Haley Over,	1	See Ball Games.
193	Halma,	1	See Checkers.
194	Hand Ball,	1	*m. b.*, E., *ms.*, AT., *d. j.*, H. A. BK. W. AB. CH., *n.*, TH. C., GEN. EX.
195	Hanging,	6	*m., ob. mem. lit.*
196	Hare and Hounds,	1	m. B., *ob. will. en.*, h. a., CH., bk. w. ab., TH. C.
197	Hawk and Chickens,	3	m. B., *im. h. a.*, CH. TH. C.
198	He Can Do Little Who Can't Do This,	2	*m., ob. d.*
199	Hen,	1	See Laughter Games.
200	Here I Brew and Here I Bake,	3	See Bull in the Ring.
201	Here We Come Gathering Nuts of May,	3	See Rounds.
202	Hide and Seek,	13	*m.*, OB.
203	Hide and Seek,	1	See I Spy.
204	Hide and Whoop,	1	See I Spy.
205	Hide in Sight,	1	*m.*, OB.
	Similar to this—		
206	Hide the Handkerchief,	1	
	Magical Music,	1	
207	High Barbara,	2	See I Spy.
208	History,	13	*m., mem. comp. his. geog.*
209	Historical Pictures,	6	M., *mem. im. draw. his.*
	Similar to this—		
	Illustrated Proverbs.		
210	Historical Tableaux,	9	M. b., *im. his.*
211	Hockey,	1	See Polo.
212	Hold Fast and Let Go,	13	*m., at.*
213	Honey Pots,	1	*b.*, H. A., *bk. w.*, th. c.
214	Hook 'Em, Sniffy,	1	*m. b.*, e. ms., *h. a.*, th. c.
215	Hoop Games,	2	*m. b., e. ms.*, AT. H. A., *ch. bk. w. ab.*, TH. C.
	Encounters,		
	Hoop Race,		
	Posting,		
	Returns,		
	Steeple Chase,		
	Tournaments,		
	Turnpike Gates.		
216	Hop Scotch,	1	m. B., *e. ms. h. a. ch. bk. w. ab.*, TH. C.
217	Hopping Bases,	2	m. B., *j. en. h. a. ch. bk. w. ab.*, TH. C.
218	Hopping Dance,	3	*b. h. a. bk. w.*, TH. C.

219	Hot Cockles,	1	m. b., *t*, h. a. b. th. c.
220	House Furnishers,	2	See Repeating Games.
221	House Hiring,	4	*m.* B., AT., j., *q.*, h. a., CH., **bk.** w., TH. C.
222	How Do You Like It?	1	*m. at. as.*
223	How Many Miles to Babylon?	3	m. B., j., *per. en.*, h. a., CH., *bk. w.*, TH. C.
224	Humpty Dumpty,	3	*b. h. a.*, B. AB. W., *th. c.*
225	Hunting Tag,	14	m. B., ob. j., *per. en. q.*, CH., bk. w., TH. C. GEN. EX.
226	Huntsman,	2	B., *h. a.*, CH. BK., *w.*, TH. C. GEN. EX.
	Similar to this—		
	Sea and Her Children,	13	
227	Hunt the Fox,	13	B., *h. a.*, CH. TH. C.
228	Hunt the Handkerchief,	1	*m.*, OB.
229	Hunt the Ring,	2	m. b., *ob. h. a. q.*
	Similar to this—		
230	Hunt the Slipper,	1	
	Wandering Dollar,	3	
231	Hunt the Squirrel,	3	See Drop the Handkerchief.
232	Identification,	1	*m., d.*
233	I'll Give You a Paper of Pins,	3	*m., mem. s.*
234	Illustrated Ballads,	1	M., *im. o. lit.*
235	Illustrated Proverbs,	3	See Historical Pictures.
236	Illustrated Quotations,	5	M., *as. mem. lit.*
237	I Love My Love,	1	M., AT. AS. MEM.
	Similar to this—		
	Minister's Cat.		
238	Impromptu Newspaper,	6	M., *comp.*
239	Insects and Flowers,	11	M., *at. mem.*
240	Intellectual Salad,	1	M., MEM., *lit.*
241	Intery, Mintery,	13	*m., at.*
242	I Spy,	1	*m.* B., OB., *per. cour.*, GEN. EX., *varying.*
	Similar to this—		
	Blank and Ladder,		*ear.*
	Green Wolf,		
	Hide and Seek,		
	Hide and Whoop,		*ear.*
	High Barbara,		
	Robbers and Gendarme.		
243	Jacob,		See Blind Man's Buff.
244	Jack, Jack, Show a Light,	2	*m.* B., *e. ear, end. cour.*, GEN. EX., *varying.*
245	Jack's Alive,	2	m. b., *q.*
	Similar to this—		
	Robin's Alive.		
246	Jack Stones,	1	*m. b.*, E. MS., j., *h. a.*
247	Jack Straws,	1	*m. b., eye. ms.*, j., *h. a.*, MUS. CON.
248	Jenkins's Up,	12	*m.* b., *ob. j. q. h. a.*
249	Jingling,	2	See Blind Man's Buff.
250	Judge and Jury,	13	M., *im. mem. o. his.*
251	Judge and Jury,	3	m. *b.*, will, h. a. bk. th. c.
252	Jumping Rope,	1	m. B., *e.*, j., *en. h. a.*, ch. bk. w. ab., TH. C.
253	King's Castle,	1	B., *will, en.*, H. A., *ch.*, BK. W. AB., *n.*, TH. C.

254	King of Turkey is Dead,	3	See Laughter Games.
255	Knights,	2	*m.* B., j., *will*, *en.*, H. A., *ch.*, BK. W. AB. TH. C.
256	Knights of Spain,	3	*m.* b., *mem. j.*, h. a. th. c., *s.*
257	Knock 'Em Down,	2	See Throwing Games.
258	Knur and Spell,	1	*m. b.*, *e.*, H. A. W., *th. c.*
259	Lacrosse,	1	M. B., E. MS. AT. J. R. WILL, SELF-POS. EN. COUR. Q. H. A. CH., *bk. w. ab. n.*, TH. C. GEN. EX.
260	Last Man's Jump,	2	See Leap Frog.
261	Laughter Games, Bachelor's Kitchen, Club Fist, Drill Sergeant, Grand Mufti, Hen, Muffin Man, Quaker Meeting, Tip Nose.		*m. b.*, *varying*, WILL, *in. c. of l.*
262	Lawn Billiards,	1	See Croquet.
263	Lawyer,	13	M., AT.
264	Leap Frog, Similar to this— Fly the Garter, Foot-and-a-Half, Last Man's Jump.		m. B., *e. ms. h. a b.*, TH. C.
265	Likenesses,	11	M., AS., *mem.*
266	Literary Whist (15 games),		M., AT. AS. MEM., *ob. j. bing.*
267	Little Henry Hughes and the Duke's Daughter, Similar to this— Other Games in Three.	3	*m.*, *mem. s.*
268	Location,	5	M., *at. mem. geog.*
269	Logomachy,	1	M., OB., *sp.*
270	London,		*m. b.*, *e. ms. h. a.*
271	London Bridge, Similar to this— Open the Gates.	1	m. B., H. A. BK. W. TH. C., *s.*
272	Loto	1	M., OB., *sp.*
273	Maids and Bachelors,	1	*m. b.*, *as. j. h. a. w. bk. th. c. varying.*
274	Magical Music,		See Hide the Handkerchief.
275	Magic Answer,	2	*m.*, *d. ob.*
276	Magic Fan,	2	*m. b.*, *e. j. h. a.*
277	Magic Wand,	2	*m.*, *at. as. d.*
278	Marble Games Bridge, Fortifications, Ring, Pyramids, Three Holes, Bottle Game.	1	M. B., E. MS., *d. j. h. a. bk. th. c.*
279	Marriage,		See Round Games.
280	Merchants,	1	*m. geog.*
281	Metten,		M. B., E. MS. AT. J. H. A., *bk. ch. w. ab.*, TH. C. COUR. GEN. EX.
282	Minister's Cat,	5	See I Love My Love.
283	Miss Jemima Jones,	3	See Round Games.
284	Moneta,	1	*m., arith.*
285	Moorish Fort,	2	*m. b.*, *e. m. h. a.*

286	Morra,	1	m. *b.*, *h. a. ch. th. c. arith.*
287	Morrill,	7	See Checker Games.
288	Mosaics,	1	M., *comp.*
289	My Aunt's Garden,		See Repeating Games.
290	My Grandmother's Trunk,	5	See Repeating Games.
291	My Household,	3	*m., im.*
292	My House, Your House,	1	*m.*, AT.
293	My Ship,	1	M., AT., *d.*
294	Myths,	1	*m., mem. as.*
295	Muffin Man,	11	See Laughter Games.
296	Mumble the Peg (Stick game)	1	*m. b., e. ms.*, H. A., bk. w. th. c.
297	Mumble the Peg (Knife game)	1	*m. b., e. ms. h. a. th. c.*
298	Musical Neighbors,	1	*m., ear, d.*
299	Naughts and Crosses,	1	*m., ob.*, r.
300	Nigger Baby,	1	M. B., E. MS., *j. q.*, H. A., *bk. w. th. c.*
	Similar to this—		
301	Nine Holes.		
302	Nine Men's Morris,		See Checkers.
303	Nine Pins,	1	See Bowling.
304	Novels,	1	*m., comp.*
305	Oats, Peas, Beans and Barley Games,	3	See Round Games.
306	Object Game,	2	See Twenty Questions.
307	Observation,	1	*m.*, OB., MEM.
308	Ogre's Coop,		*m. b.*, IM., *gen. ex. varying.*
	Similar to this—		
	Old Mother Tipsey Toe,		
	Old Witch.		
309	Old Soldier,	2	*m., as. wit, q.*
310	Old Witch,	3	See Ogre's Coop.
311	Oranges and Lemons,	2	See Tug of War.
312	Original Sketches,		M., *im. mem. as. his. draw.*
313	Open the Gates,	3	See London Bridge.
314	Pairs,	2	*m., wit.*
315	Parchesi,	1	See Backgammon.
316	Parlor Bowls,	2	See Bowling.
317	Parlor Croquet,	2	See Croquet.
318	Parodies,	5	M., *comp.*
319	Peanut Spree,	1	*m. b., varying.*
320	Pease Porridge Hot,	1	m. *b., q. h. a.*
321	Pea Shooter,	1	m. *b., e.*, h. a., CH.
322	Peel Away,	1	m., B., j., *per. en. q.*, h. a., CH., *bk. w.*, TH. C. GEN. EX.
323	Pegging the Map,	1	*m. geog.*
324	Peg in the Ring,	2	See Top Games.
325	Philander's March,	3	m., B. TH. C., *s.*
326	Pitching Games,		*m. b.*, E. MS., *h. a. bk.*, w., *th. c.*
	Brother Jonathan,		
	Buttons,		
	Faba Goba,		
	Pitch Stone,		
	Quoits,		
	Shovel Board.		
327	Plank,	1	M., *ob. j. r.*
328	Planting,	11	M., *as. wit.*
329	Play of the Queen,	14	See Ball Games.
330	Poetical Butterfly,	11	M., MEM., *lit.*
331	Polo,	1	*m.* B., *e. ms. ob. j. will, self-pos. end.*, Q. H. A. CH. BK. W., *ab.*, TH. C. GEN. EX.

	Similar to this— Hockey.		
332	Pool,	1	See Billiards.
333	Poor Jenny is a-Weeping,	3	See Rounds.
334	Positive and Comparative,	13	*m., as. l.*
335	Princess Hugger Mugger,	13	See Laughter Games.
336	Prisoner's Base,	1	M. B., AT. J. EN. Q., *h. a.*, CH., *bk. w. ab.*, TH. C. GEN. EX.
337	Prohibitions,	1	*m., at. gram.*
338	Pronunciation Match,	1	*m., pronunciation.*
339	Protean Cards (50 games),	1	For Value see Whist, Dominoes and Logomachy.
340	Proverbs Guessing,	2	M., *at. ob. as. mem.*
341	P's and Q's,	1	M., *as. mem. his.*
342	Puss in the Corner,	1	m. *b.*, *at.*, j., *q.*, h. a., CH., b. w., TH. C.
343	Puzzles, Arithmetical,	2	M., OB. D. R., *pa. per. arith.*
	" Mechanical,	2	M., E. OB. D. R., *pa. per. physics, geometry, arith.*
	" Word or Sentence,	2	M. OB. AS. WIT.
344	Puzzle Drawings,	1	*m. as. im. draw.*
345	Pyramids,	1	See Checkers.
346	Quadralet,	1	See Checkers.
347	Quaker Meeting,	1	See Laughter Games.
348	Quaker, How is Thee?	3	*b., h. a. th. c.*
	Similar to this— Queen Dido is Dead.		
349	Queen Anne,	13	*m.*, j.
350	Queen and Her Attendants,	13	m. *b.*, *at. q.*, h. a., CH. TH. C.
351	Queen Dido is Dead,	1	See Quaker, How is Thee?
352	Quoits,	1	See Pitching Games.
353	Quotations,	1	M., MEM., *lit.*
354	Quotations and Authors,	8	M., MEM., *lit. biog.*
355	Race Game,		See Backgammon.
356	Race Round the World,		See Backgammon.
357	Racing, Child Games of,	4	B., *w. en.*, h. a., CH. TH. C.
358	Railroad Game,	13	*m. b.*, AT., *as. gen. ex. varying.*
	Similar to this— Stage Coach.		
359	Rockets,	1	See Tennis.
360	Relievo,	1	*m. b.*, *at.*, j., *q.*, h. a., CH., bk. w., TH. C.
361	Red, White and Blue,		See Bowling.
362	Repeating Games,		M., AT. AS. MEM.
	Genteel Lady,		
	Good Fat Hen,		
	House Furnisher,		
	My Aunt's Garden,		
	My Grandmother's Trunk,		
	Royal Ambassador.		
363	Retch's Outlines,	2	*m., im. draw.*
364	Ring a Ring Rosie,	13	See Rounds.
365	Ring the Bull,	2	See Pitching Games.
366	Ring the Nail,	2	See Pitching Games.
367	Rivers,	3	*m. b., ob. j. th. c.*
368	Robbers and Gendarme,	4	See I Spy.
369	Robin's Alive,	1	See Jack's Alive.
370	Robins Fly,	13	*m.* b., AT., h. a.
371	Roll Ball,	3	See Ball Games.

XUM

372	Rounds,		M. B., *at.*, IM. MEM. H. A. TH. C., *gen. ex. varying, o. s.*
	Blue Birds and Yellow Birds,		
	Do, Do Pity My Case,		
	Farmer in the Dell,		
	Green Gravel,		
	Go Round and Round the Valley,		
	Happy is the Miller,		
	Here We Come Gathering Nuts of May,		
	King Arthur was King William's Son,		
	Marriage,		
	Miss Jemima Jones,		
	Ring a Ring Rosie,		
	Rose in the Garden,		
	Tread, Tread the Green Grass,		
	Uncle John,		
	Virginia Reel,		
	Other Games in 3 and 13.		
373	Russian Gossip,	11	M., AT. MEM.
374	Sail the Ship,	13	*b.*, H. A. TH. C.
375	Sapolio Game,	6	*m., comp.*
376	School Ball,	14	See Ball Games.
377	Schoolmaster,	2	*m., as. mem. q.*
378	Sea and Her Children,	13	See Huntsman.
379	Secretary,	5	*m., comp.*
380	Seega,	1	See Checkers.
381	Shadow Pictures,	1	*m. b., e. im. h.*
382	Sheep and Wolf,	3	m. *b.*, im. h. a., CH. TH. C.
383	Sheep Fold,	1	See Cat and Mouse.
384	Shepherdess and Wolf, Similar to this—Snake's Tail.	13	*m.* B., *at. ob. q.*, H. A. BK. W. TH. C.
385	Shovel Board,	1	See Pitching Games.
386	Simon Says,	1	*m.*, AT.
387	Skittles,	2	See Bowling.
388	Sling the Monkey,	2	*b., h. a. bk. w. ab. th. c.*
389	Snake's Tail,	1	See Shepherdess and Wolf.
390	Snap the Whip,	1	B., H. A. CH. TH. C.
391	Snow Fights,	15	M. B., E. MS. OB., *j. r. will*, COUR., H. A., *ch. bk. w. ab. n.*, TH. C., *gen. ex.*
392	Soap Bubble Games		*m. b., mus. con. ch.*
393	Sonnets,	6	*m., pros.*
394	Spelling Match,	1	*m., sp.*
395	Spinning the Platter,	12	m. *b., q. h. a. bk. w. th. c.*
396	Squails,	1	See Crockinole.
397	Squat Tag,	1	m. B., *at.*, j. h. a., *ch.*, TH. C.
398	Stage Coach,	1	See Railroad Games.
399	Stealing Grapes,	3	*m. b., h. a. ch. th. c. s.*
400	Stealing Sticks,	3	*m. b., ab. j. h. a. bk. w. ch. th. c.*
401	Steal Ball,	2	See Ball Games.
402	Story Teller,	5	*m. comp.*
403	String Ball,	1	*m. b.. e. ms. h. a.*
404	Sudden Departure,	3	See Bull in the Ring.

405	Swayka,	1	*m. b., e. ms. h. a.*
406	Synthesis,	1	M. OB., *sp. etymology.*
407	Tableaux,	1	M. b., *varying, im. his. biog. lit.*
408	Tennis,	1	M. B., E. MS. AT., *d. j. r.*, WILL, SELF-POS., COUR., *en.*, Q. H. A., *ch.*, BK. W., *ab.*, TH. C., B., GEN. EX.
	Similar to this—		
	Badminton.		
409	Theatricals,		M., MEM. IM., *o. biog. his. lit.*
410	Three Lives,	1	M., D., *as. sp.*
411	Throwing Light,	1	M., AT. AS. MEM., *j.*
412	Tiddledy Winks,	1	m. b., e. ms. h. a.
413	Tip Cat,	1	*m. b.*, E., MS., J., *h. a. bk. w. th. c.*
	Similar to this—		
	Trap Ball.		
414	Trades in Pantomime,		*m.* b., *im. as.*, GEN. EX.
415	Trap Ball,	1	See Tip Cat.
416	Travelers,	1	*m., as. mem. geog.*
417	Tread, Tread the Green Grass,	3	See Rounds.
418	Tom Tiddler's Ground,	1	m. B., *at.*, j., *q.*, h. a., CH., *bk. w.*, TH. C.
419	Touch Wood, Touch Iron,	2	m. B., *ob.*, j., *q.*, h. a., CH., *bk. w.*, TH. C.
420	Tug of War,	1	m. B., WILL, EN., H. A. BK. W. TH. C.
	Similar to this—		
	Colors,		
	Oranges and Lemons.		
421	Twenty Questions,	16	M., AT. MEM., D. J. R.
422	Two Old Cat,	7	See Ball Games.
423	Uncle John,	3	See Rounds.
424	Unconscious Counting,	1	*m., ob.*, MEM.
425	Virginia Reel,	3	See Rounds.
426	Wandering Dollar,	3	See Hunt the Ring.
427	Warning,	13	m. B., *at.*, j., *q. per.*, H. A. CH., *bk. w.*, TH. C.
428	Weighing,	3	B., H. A., *bk. w.*, TH. C.
429	What is My Thought Like?	1	*m., as. wit.*
430	When I Was a Shoemaker,	3	*m., b. j. gen. ex. s.*
431	Whist,	1	M., AT. MEM. J. R.
	Similar to this—		
	Other Card Games.		
432	Who'll be the Binder?	3	See Rounds.
433	Who Was He?	1	M., AS. MEM. HIS. BIOG.
434	Wicket,	1	See Ball Games.
435	Widows with Daughters to Marry,	3	*m.* b., *im. o. s.*
436	Witch in the Jar,	3	m. B., *im.*, h. a., CH., bk. w., TH. C.
437	Wolf in the Garden,	4	m. B., *at.*, j. h. a., CH., *bk. w.*, TH. C.
438	Wrestling,	1	M. B., AT. J., *r. will, en.*, COUR. Q. H. A., CH., BK. W. AB. TH. C. GEN. EX.
439	Yes and No,	13	*m., at. as. mem.*, j., *r.*
440	Zoölogic Whist,		*m., at. mem. j. r. zoölogy.*

The course of games is simply an experiment. It is the result of an attempt to see just what could be done. It is intended to be only suggestive. The number of games could still be increased from

the table. Some of the games have been repeated in the list, though, perhaps, not so much as might be desirable. Children play their best games during a period of several years, and some games, like base ball or checkers, seem to last nearly half a lifetime. Children are often content to play the same game over and over, and there are many games which, for discipline and for possibilities of increasing skill, are inexhaustible. From a list of two thousand and more games received from children, hardly two hundred were different. The ages of the children who furnished the lists were the data for determining the grade in which a game has been played. The descriptions of the games are very brief because of the lack of space. The effectiveness and spirit, plainly apparent in a game, often suffer in the description here given. Very familiar games, and games which could not be explained in a few words, have not been described. Some of the games are plainly very poor, but some of them will be acknowledged to be excellent. It is evident, also, that only a tiny bit of information comparatively is acquired in games, yet enough to be worthy of consideration. Intellectually considered, the character of the education which can result from games is mainly disciplinary. But it should be borne in mind that our games are very far behind the present century. There is reason to expect a wonderful advance in the next few years. Nearly every noble game of to-day has been played in some form for centuries. In Grasberger's[1] collection of old Greek games one sees the antiquity of many of the familiar plays of childhood. Whatever improvement has been made in any has been made in the interest of professionalism or from love of the game itself. Apart from the efforts of kindergartners, little has been done in this country towards the improvement of old or the invention of new games for children, except the many efforts in highly colored dice boards or pig-in-the-sty puzzles for commercial interests. Children to-day are playing the games that children played well nigh centuries ago, and games that have deteriorated rather than improved. Beautiful and useful as some of these even now continue to be, they are far behind what our children might be playing. As Mr. Newell has shown, children are imitative and not inventive in their games, and these are their favorite games because they are the most attractive they have had an opportunity to imitate. In respect to that which is one of the most vital influences of childhood, we have left our children to be taught by children, really by children of generations gone. If a hundredth part of the effort exerted in writing new text-books had been expended in behalf of plays and games, a far greater proportionate gain would have been realized.

Course of Games.

Attention.

Grade I.

Remove shyness, develop sociability and gain the attention of all to a common interest, by the use of the simpler rounds.

Return, or String Ball. Use left hand equally with right.

Rounds. See books 13 and 3.

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[1] L. Grasberger, "Erziehung u. Unterricht im klassischen Alterthum." Würtzburg, Bd. I., 1867.

Catch Ball. Use soft ball. Children stand in rows or in circle. Alternate rolling, tossing, with right hand, left hand, both hands. Opposite player catches, and returns or passes the ball on in same manner. Game may be greatly varied.

Cat and Mouse. "Mouse" inside, "Cat" outside the circle. Children circle round, hindering, with lowered arms, the cat from getting in or out, but with raised arms allowing mouse to pass freely out or in.

Birds Fly. Leader cries "—— fly!" naming any bird or animal, at same time holding up hands. Others hold up hands only in case flying bird is mentioned. Who misses is out.

Follow My Leader.

Intery Mintery. All place forefinger on leader's knee. Leader repeats a counting rhyme, touching a finger at each syllable. The finger upon which the last syllable falls must be instantly withdrawn or it will receive a rap.

Come With Me. Children stand in a circle. One runs around the circle (as in Drop the Handkerchief) and touches some one on the back, saying "Come with me!" The two run in opposite directions. Upon meeting they take hold of hands, swing once around, and then race for the vacant place.

GRADE II.

Rounds. Catch Ball. Same as in Grade I. Also let leader toss ball in the air and call name of some one to catch it.

Follow My Leader.

Circle Ball. Passing ball quickly around circle, handing to next, or tossing.

Balloon Ball. Use light, large rubber ball. Alternate rolling, tossing, throwing, kicking, right hand, left hand, both hands. Vary.

Hold Fast and Let Go. Four children hold corners of handkerchief. A fifth cries, "Hold fast!" or "Let go!" In each case, opposite must be done.

Bird Catcher. Children sit in circle. One stands within the circle. Each takes the name of some bird. Teacher or leader tells or reads story, bringing in the names of the birds. At the mention of her name one must raise hands and bring them down quickly. At mention of owl all place hands behind back, holding them there until another bird is mentioned. The catcher endeavors to catch a hand whenever one is moved.

GRADE III.

Rounds. Balloon Ball. Same as in Grade II. Also keep ball in the air by batting upward with the hand until a miss is made, or keep bounding it by batting it downward against the floor. Alternate hands.

Simon Says.

Fisherman. Tie string to a stick and make slip loop at other end. Loop is placed in center of table. At words "Your fish!" each must put finger within the loop. At words "My fish!" fingers must be quickly withdrawn, or fisherman, by sudden jerk, will snare them.

House Hiring. Children stand in circle. One inside tries to hire a house, *i. e.*, get some one to exchange places with him. By mo-

XUM

tions, two get ready and exchange places when he is not looking. If one is caught he becomes house hirer.

Hoop Games. Rolling hoop, racing hoops.

Guess. One gives first letter of some object in the room. Others guess the object. Who guesses right names another object. Object mentioned must not be repeated.

GRADE IV.

Rounds.

School Ball. Use soft ball. Count out for turns. No. 1 retains ball so long as he can catch it in accord with the rules. When he misses he must step five paces away and let No. 2 throw ball at his back. If No. 2 misses he loses his turn and gives ball to No. 3, who proceeds as No. 1. 1. Throw up with one hand, catch with both. 2. Throw with both, catch with both. 3. Throw with both, catch with one. 4. Throw with one, catch with other. 6. Throw to ground and catch on the bounce, in the different ways. 7. Bat upward before catching. 8. Throw upward, and before catching (*a*) clap hands, (*b*) bow once, (*c*) kneel once, (*d*) jump in the air, (*e*) jump forward, (*f*) jump backward, (*g*) kneel to right, (*h*) kneel to left.

Days of the Week. Each takes the name of some day. One throws against wall and calls out "Monday!" or some other day. The one representing the day catches the ball. If he misses, others must scamper away before he has time to throw the ball and hit one of them. Who misses or is hit loses a point.

Insects and Flowers.

Elements.

Genteel Lady. One says to neighbor, "Good morning, genteel lady, always genteel; I, a genteel lady, always genteel, come from that genteel lady (pointing), always genteel, to tell you that she has a bird" (or anything you like). The one addressed repeats exactly and adds something else about the bird, and so on.

Buzz. Count around circle. Buzz is always substituted for some chosen number and its multiples. For example, 1, 2, 3, 4, buzz, 6, 7, 8, 9, buzz, etc.

GRADE V.

Rounders. Simple game of base ball.

Beast, Bird, or Fish. Children sit in circle. One throws knotted handkerchief at another exclaiming, "Beast!" "Bird!" or "Fish!" then counts ten. Before ten is counted, others must name a beast or bird or fish, being sure to mention one of the right class and not to repeat what has been before mentioned.

The Good Little Man. One says: I sell you the house of my good little man. The next, I sell you the door of the house of my good little man. The next, I sell you the lock of the door, etc., and so on at pleasure.

The Key of the King's Garden. Similar to The Good Little Man.

Railroad Game. Each takes name of something associated with railroad. One relates story. At mention of rails, "Rails" must rise and extend arms in front. At mention of news-boy, "News-boy" must call out his papers, etc., etc.

School Ball with two balls. Throw the balls upward, one after the other, and catch with both hands. Throw with one hand. Catch with other hand. Throw and catch with same hand. Throw both

balls at once, one with each hand, and catch one in each hand. The same, but change balls in catching, etc., etc.

Shepherdess and Wolf. Children stand in long row, each clinging to the one before, the shepherdesss at the head. The wolf jumps about to catch a lamb, but the shepherdess always turns to face him, the lambs following.

Hoop Games.

Hoop Race.

Encounters. Start from opposite sides of playground. Each endeavors to tip over other's hoop by driving his own over it.

Posting. Driving hoop about circular ground, changing drivers at certain stations.

Turnpikes. Half are "pike-keepers." Half roll the hoops. Turnpikes are made of two stones or bricks at regular intervals around a large circle or along the road. Rollers must roll hoop between stones without touching. Whoever misses must change with "pike-keeper."

House Furnishers. Children imagine themselves hosts and hostesses expecting many guests. One begins by saying he will furnish his house with chairs, or anything he likes. Next repeats and adds another article, and so on.

GRADE VI.

Base Ball.

My Grandmother's Cat. One begins, "My grandmother's cat is an —— cat." Next uses a different adjective. Must not repeat.

Europe, Asia, Africa. Very similar to Beast, Bird or Fish, only answer must be some person or object, in or from the country named.

Corn and Beans. Large number of cards with questions in arithmetic, geography, history, or whatever you like written upon them. Same number of cards with answers. Leader reads question. Who holds the answer must cry "Corn!" The others cry "Beans!" If one crys "Corn" correctly before anyone crys "Beans," he scores a point. Corn and beans may be used as counters.

Battledoor and Shuttlecock.

Buzz Fizz. Every multiple of three in counting is called "Buzz," and every multiple of five is called "Fizz." Fifteen would be called "Buzz Fizz."

City of Rome. A repeating game.

Follow Tag. All numbered; each tries to tag the one ahead, but to keep from being tagged by the one behind, *i. e.*, number 5 tries to tag number 4, but must at the same time escape from number 6.

I Love my Love. First says: "I love my love with an a, because he is a ———." Second increases length of sentence, repeating exactly what first one said, and so on.

GRADE VII.

Base Ball.

Book Binder. Players stand in circle, with arms extended in front, book resting on back of hands. One in the centre attempts, by feints and quickness, to raise book and strike the hands before they are withdrawn. Hands cannot be withdrawn until book is lifted.

XUM

Lawyer. Players sit in rows. Lawyer asks questions of each, which must be answered correctly by the one opposite the one addressed. Pronoun I must not be used in the answer.

Throwing Light. Two agree upon an object (or person) and converse about it without mentioning it. Others must guess the object or person from what is said.

How Do You Like It? One guesses the object thought of by the rest from the answers given to the questions, How do you like it? When do you like it? Where do you like it?

Russian Gossip. One reads or tells a little story in a whisper to his neighbor. The neighbor repeats, and so on around the room. The last statement is compared to the original.

Location.

Prisoner's Base.

Basket Ball. A simple game may be played with common ball. Choose sides. One side attempts to keep possession of the ball, passing it continually from one to another of the same side. The other side endeavors to get the ball away. Or, use medicine ball and play as it is usually played in gymnasiums.

GRADE VIII.

Base Ball. *Tennis.* *Authors.*
Literary Whist. *Hand Ball.*

Flour Drummer. Each must answer very promptly when questioned by the drummer, and must not use the words, I, yes, no and flour.

NOTE. All games mentioned under observation are more or less helpful for attention, and some of them are among the very best.

Memory.

What is commonly understood as memory is best aided by increasing the power of attention and by a judicious habit of association. The few games mentioned below furnish a good drill in recalling.

GRADES I–IV.

Rounds. *Songs.*

GRADE V.

School Master. Children stand in line. The "school master" asks the name of a bird, animal, place, noted person, or whatever you like, beginning with a certain letter. After ten is counted, the next child may answer and take place above, if the one asked has not already answered. No repetition.

Beast, Bird, or Fish.

GRADE VI.

Assumed Characters. Child pretends to be some character of whom he has read and tells the story in autobiographic form.

Poetical Butterfly. One names the rest after flowers, trees, birds, etc. Butterfly pretends to fly from one to the other, asking each

for his story. Each must tell something about the tree or bird he represents, a story, legend, fact, quotation, or the like.

Geography. Described under Geography.

Europe, Asia, Africa.

GRADE VII.

Location. *Game of Noted Men.*

Who Was He? One gives brief sketch of some noted person or character in literature. The others tell who he is.

Adventures. Described under Geography.

GRADE VIII.

Historical Pictures. Draw pictures illustrating some event of history. Others name the event.

Hanging Game.

Illustrated Quotations. Pictures to represent passage in poetry or fiction, as in Historical Pictures.

Characters. One is selected as "Guesser." The others make remarks to him or question him as though he were the character they have in mind, until he can name the person thought of.

Judge and Jury. One judge, three jurymen. The rest select some person to represent. Judge questions each as to dates, incidents of life, contemporaries, etc. Jurymen decide whether all is correctly answered or not.

History. Each writes name of country or person upon a piece of paper. These are shuffled and distributed. Each must write account of place or person which falls to him.

Quotations. Familiar quotations very neatly written upon cards. Cards are drawn and author guessed. Whoever succeeds retains card as his own. Or name of author may be written, and quotation be required.

Observation.

GRADE I.

I Spy.

Blank and Ladder. I Spy, by sides.

Hide in Sight. Hide something in room, but so that it is not entirely concealed if one looks sharply from all points of view.

Alphabet Games. Explained under Reading.

Gypsy. Gypsy charges her daughters, in rhyme, to stay at home and be good. While she is away daughters hide. Gypsy must find all.

GRADE II.

I Spy.

Hide in Sight.

Shadow Buff. Identifying child by her shadow.

Hide the Handkerchief. Handkerchief hidden in the room to be found.

Magical Music. Like Hide the Handkerchief or Hide the Thimble. Teacher plays piano loudly or softly as a hunter nears the object.

Alphabet Games.

XUM

GRADE III.

Alphabet Games.

Come, It Comes. Players sit in center of room. One says, "It comes!" Others, "What comes?" "—— comes," naming first letter of some object in the room. Others guess.

Guess. Like the above, only more complicated. One gives first letter of an object in the room. Next one guesses. If right, names first letter of another object, next one guesses, and so on. May play sides. First exhaust letter a. Whoever fails to name object when any one on other side can name one with proper letter, is dropped as in spelling match. Repetition or failure to guess object causes loss of turn.

Parts. Naming different parts of an object, as of house, book, table, etc., without giving letter. Play as above.

In this and lower grades, simply picking flowers and gathering pebbles, etc., is an excellent training for the observation.

GRADE IV.

Naughts and Crosses. Tit-tat-to.
Sliced Maps.
Fox and Geese.
Dominoes. Simpler games.
Collecting Stamps.
Touch Wood, Touch Iron. A tag game.
Identification. Several children conceal all but eyes behind curtain or mask, or conceal all but part of face or hand. The others guess who each one is.
Stealing Sticks. Sticks are scattered about "keeper's ring." Children watch opportunity to steal a stick without being caught.

GRADE V.

Collecting Stamps or Stones.
Parchesi and other games similar.
Unconscious Counting. Players are allowed to look a very short time at a number of articles, or marks upon a slate or board, but not long enough to count. Tell the number.
Buried Words. "Somewhat back from the *village* street, stands an old-fashioned country *seat*." Find a body of water and a country dwelling. Ans., Sea and villa. Fruit, flowers and animals are good words to conceal.
Fox and Geese.
Dominoes.
Loto.

GRADE VI.

Observation. Players pass around table or desk upon which are numerous articles. They then endeavor to write a list of all the articles.

Dictionary. Making all words possible out of the letters of a large word.

Collections. *Backgammon.* *Nine Men's Morris.* *Dominoes.* *Logomachy.* *Fox and Geese.* *Plank.*

GRADE VII.

Jenkins Up. All sit about a table. Divide into two parties. Captain of one side says, "Jenkins up!" All on other side raise hands, the leader with a coin exposed in right hand. "Jenkins down!" All quickly place hands under table and pass coin along. As soon as opposite captain has counted ten, he exclaims again, "Jenkins up!" All raise closed hands. At command, "Jenkins down!" hands are placed palms down upon table. Captain of the other side now, after consultation with his players, orders up one hand after another, leaving till the last the one under which the coin is thought to be. Game requires great watchfulness.

Collecting Birds' Eggs or Insects. *Halma.* *Dominoes.* *Logomachy.* *Plank.* *Pyramids.*

GRADE VIII.

Checkers. *Dominoes.* *Agon.* *Go Bang.* *Synthesis.* *Collecting Coins.* *Anagrams.*

Reading and Spelling.

GRADE I.

Alphabet Games. Use cardboard letters, both print and script. Match letters; form words. Pictures and objects with accompanying words for models may be used. Vary the games. Form sentences.

Sliced Pictures, with words.

GRADE II.

Extend games of Grade I., simplifying from Loto, Logomachy and Anagrams.

GRADE III.

Alphabet Games.

GRADE IV.

Spelling Match. Rightly conducted, reading from this time on, may be play.

GRADE V.

Loto. *Spelling Match.*

GRADE VI.

Assumed Characters. *Dictionary.* *Logomachy.*

GRADE VII.

Theatricals. *Assumed Characters.* *Logomachy.* *Spelling Match.*

GRADE VIII.

Synthesis. *Anagrams.* *Spelling Match.* *Theatricals.*

XUM

Language.

GRADES I–V.

Morning Talks. *Story Telling.*
School, House and other imaginative plays. Acting and impersonating plays.
Rounds.

GRADE VI.

Assumed Characters. Grandmother's Cat. Description of the cat is given, using adjectives beginning with a, then b, etc.
Poetical Butterfly.
Adverbs. An adverb is chosen. One who is to guess infers the adverb from the manner in which his questions are answered.
Adjectives. Same as adverbs, only the adjective is named instead of the adverb.
Story Teller.
Cupid Comes. Each tells how Cupid comes, in answer to questions, using adverbs.

GRADE VII.

Animal Acting Missing Letter Game. This game requires long description, but the part of use here is the giving of anecdote or description of animal, using pronoun I in place of the animal's name.
Prohibitions. Certain parts of speech prohibited in answers to questions.
Crambo. A question and word given. Answer to contain the word and to be in rhyme.
Impromptu Newspaper. Each writes certain parts of the paper.

GRADE VIII.

Mosaics. List of words given. Story to be written containing the words in the order given.
Novels. Each writes a part of a story, one beginning where another left off.
Parodies. Poem given. A parody to be written.
Sapolio Game.
Five Minute Conversations. Topics drawn by lot. Two must converse for five minutes on the subject obtained.

Arithmetic.

GRADE I.

Use teetotums numbered 1-2, 1-3, 1-4, etc., to 10. Spin to see how large a number one will get. How large a sum in two, three, etc., spins. Play sides and compare totals. Add only numbers which are alike (multiplication), etc., etc.
Use dominoes figured and dotted. Match. Match so as to give as large sum as possible by adding numbers at ends. Match in three directions, four directions. Invent many variations.
Use dice.

GRADE II.

Use turning indicators or wheels with numbers 1-10, 1-20, etc., to 50. Simplify race games (like Parchesi), and move men according to numbers obtained. Count one for each space in moving. Count two, count three, etc. Move two men at a time, three men, etc. Invent others. Continue games of Grade I.

GRADE III.

Buzz. Count down the line. When one's count comes upon a multiple of two he says "Buzz." Vary for multiples of other numbers.

Odd or Even.

Morra. All hold out hands with certain number of fingers extended and instantly estimate totals. Add to see who is nearest right.

Moneta. A game of cards upon which are representations of U. S. money. Simplify.

Playing Store. Buy, sell, weigh, measure, make change, etc., etc.

GRADES IV.-VI.

GRADES VII.-VIII.

Arithmetical Puzzles. See Book 2.

Mechanical Puzzles.

Tip Cat. Estimation of distances.

Trap Ball. Estimation of distances.

Geography.

GRADE I.

Playing in the sand. Make caves, roads, hills, valleys, rivers, etc., etc. Playing in the brook. Sailing chip boats. Notice "hills" after a shower.

Gathering Flowers and *Autumn Leaves.* Vegetation, Seasons.

Rivers. "Following leader" around and between the desks in winding path to open place, the "Ocean."

GRADE II.

Playing and Moulding in Sand Pile.

Playing in the Brook. Make dams, sail boats. Collect pebbles and stones. Notice erosion.

Gathering Flowers, Mosses, Lichens.

Watching and Counting the Birds. Migration.

GRADE III.

Dissected Maps. *Plays of Grades I and II.*

Pets. *Sliced Animals.* Animals.

GRADE IV.

Dissected Maps.

Pegging the Map. Pegs with names upon them, to be inserted in proper holes in the map.

XUM

GRADE V.

Pegging the Map. *Race Round the World.* *Europe, Asia, Africa.*
Collecting Stamps. *Collecting Stones.*

GRADE VI.

Geography. I. Choose sides. Leader calls out name of city beginning with A. Before he counts ten leader on the other side must name another city beginning with A, and so on. II. Leader calls out any letter and says "Sea," or "Bay," or "Mountain," etc. Other answers and calls out in turn. III. Write geographical names beginning with A, then those beginning with B, etc. One minute allowed for each letter. Compare scores.

Collecting Insects.

GRADE VII.

Adventurers. Adventurer is assigned place at which to start. He must describe his journey, the appearance of country, the people, cities, vegetation, etc., etc.

Conveyances. Each selects a route for his journey. Describes conveyances, how he crossed this lake, that mountain, etc., etc.

Traveler. Traveler asks each of the rest any question he may wish in regard to the country he intends to visit.

Collecting Eggs.

GRADE VIII.

History. Each writes the name of a country on a slip of paper. Shuffled and drawn. Each must write description of country which falls to him.

Merchants. Each player personates a merchant from some foreign country. Others must guess what he has to sell.

Collection of Coins.

History and Biography.

GRADES V-VI.

Stories in Biography. Mythology. *Assumed Characters.*

GRADE VII.

Assumed Characters.
Famous Men. Played similarly to Authors.
Theatricals.
Historical Tableaux.
Historical Pictures.
Game of Noted Men.
Who Was He?

GRADE VIII.

Authors.
Characters.
Literary Whist. 15 Games.
Original Sketches. Similar to Historical Pictures.

P's and Q's. One gives name of an historical personage, next names the place of birth or a place where he fought a battle.

Famous Numbers. Numbers are written on slips of paper. Slips are drawn and each must tell for what his number is famous; *e. g.*, "13," "famous for the thirteen American colonies."

Physical Training.

GRADE I.

HAND AND ARM.

Rounds. *Catch Ball.*
Return Ball. *Cat and Mouse.*
Sail the Ship. Two or four, two by two, take hold of hands and swing swiftly around.

CHEST.

Feather Game. A feather is blown upward; all try to keep it from falling to the floor.
Puss in the Corner.
Witch in the Jar. Witch has jars marked out on the ground; when she catches any one she puts her in a jar.
Squat Tag. *Racing.*

BACK, WAIST, AND ABDOMINAL MUSCLES.

Humpty-Dumpty. Girls gather skirts about crossed feet. Repeat Hucklegee Bread or some other rhyme; at last line all go over backward, rocking back and forth four times without letting go skirts or using feet.
London Bridge. Ending in tug of war.
Drawing the Oven. All except the baker and his man Jack sit in row, each with arms about waist of the one in front. At the cry "Jack! Jack! the bread burns," the baker and his man endeavor to pull the "loaves" from the oven.
Brownie Ten Pins.

LEGS.

I Spy. Rounds. Gypsy. Old Mother Tipsy Toe. Sail the Ship. Squat Tag. Racing. Philander's March. March to singing or music around the room, through the halls, upstairs, down stairs.
Puss in the Corner. Bloody Tom. Children squat in circle. Shepherd inside, wolf outside. Conversation takes place between shepherd and wolf, then sheep spring up and run behind shepherd. Wolf tries to catch them.
Witch in the Jar.

GRADE II.

HAND AND ARM.

Rounds. Catch Ball. Circle Ball. Balloon Ball. Huntsman. Each child represents part of hunter's equipment. As hunter calls for each part the one representing it clings fast hold of the one before her in the line, the hunter being the head, as they march and turn here and there. At word "Bang!" all run to their places.
Cushion Dance. All form a circle about a cushion, taking hold of hands. Each tries to pull some one against the cushion.
Honey Pots. Select Honey Merchant and Purchaser. Rest squat with hands clasped under knees. Two larger children take each pot by the arms and swing it. If the honey pot breaks its hold it is poor honey.
Here I Brew and Here I Bake. Young Child's game of Bull in the Ring.

XUM

CHEST.

Blowing Soap Bubbles. *Running Games of this Grade.*

BACK, WAIST, AND ABDOMINAL MUSCLES.

Balloon Ball. *Humpty Dumpty.*
Drawing the Oven. *London Bridge.*
Here I Brew and Here I Bake. *Catch Ball.*
Open the Gates. Similar to London Bridge.

LEGS.

Rounds. Hunt the Fox. Children stand in rows by couples. The fox and the hunter at the head start and run down and in and out the lines, the hunter pursuing the fox; when the fox is caught they take their places at the foot.
Squat Tag. *Touch Wood, Touch Iron.* A tag
Bloody Tom. Old Witch. game.
Hawk and Chickens. One is a hawk or witch, another a hen, and the rest are chickens. A chase game.
I Spy. *Racing.*
Darby Jig. Hopping Dance. Children grasp hands under knees and describe triangles and squares on the floor to music.

GRADE III.

HAND AND ARM.

Rounds. *Balloon Ball.* *Top Games.*
Bean Bags. *Faba Gaba.*
Hunt the Ring. Ring slipped along circular rope under the hands of the children, quickly. One in the center tries to discover the ring.
Pease Porridge. *Cushion Dance.*
Weighing. Similar to Honey Pots, but harder.
Here I Brew and Here I Bake.
Colors. Ends in tug of war.
Battledoor and Shuttlecock.

CHEST.

Pea Shooter.
Dancing Pea. Pea with long pin through it. Pin inserted in the end of tube and kept dancing by blowing into the tube.

BACK, WAIST, AND ABDOMINAL MUSCLES.

Colors. *Balloon Ball.* *Bean Bags.*
Faba Gaba. Pitching bean bags through holes in a board.
Battledoor and Shuttlecock. *Marbles.*

LEGS.

Tag. *Racing.*
Five Geese in a Flock. Children sit in a row. Market woman comes along and repeats counting out rhyme. At last syllable all the geese jump up and run, the market woman pursuing.
Den. Each has a tree or stone for his den. One may tag another only in case he left his den later than the other.
Black Man. One is black man, others cry: "Who is afraid of the black man?" Suddenly black man gives chase.

Fast Runners. All ranged in columns by pairs except one. At signal from him the two at the foot divide and run around the columns, attempting to join hands before being caught.

GRADE IV.

HAND AND ARM.

School Ball.

Duck on a Rock. Each has a stone. One places his stone as the duck upon a block or rock. Others stand at a line and throw at the duck. Whoever is tagged by the "tender" before he can return to the line after picking up his stone must be "tender." The "tender" can not tag when his duck is off the rock.

Bull in the Ring. Players form a circle with one in the center who tries to break through the ring.

Days of the Week. *One Old Cat.* *Marbles.*
Jack Stones. *King's Castle.* *Walking on Stilts.*

CHEST.

Pea Shooter. *Puff and Dart.*
Running Games of this Grade.

BACK, WAIST, AND ABDOMINAL MUSCLES.

Cock Fighting. Boys squat grasping hands under knees, then hop at each other, trying to upset one another.

Stealing Sticks. *Marbles.*

King's Castle. King takes possession of a castle. Others by fair pulls and pushes try to take possession of his realm.

Baste the Bear. Bear has a ring marked on the ground. Others with knotted handkerchiefs attempt to beat the bear. The bear springs after them, but can not leave the circle.

LEGS.

Baste the Bear. *Hop Scotch.* *Jumping Rope.*

Hopping Bases. King in the center between two bases. Whoever leaves a base must hop to opposite base. The king can pursue only by hopping.

How Many Miles to Babylon?

Fox and Geese. Tag game. Fox and geese run in marked out paths.

Cross Tag. *Walking on Stilts.*

GRADE V.

HAND AND ARM.

Bound Hands. A game of tag. Goals at opposite ends of playground. Players run from one to the other at a signal from catcher. When one is caught he joins hands with catcher and they chase hand in hand. Each one caught joins the line.

Snap the Whip. Players take hold of hands, forming long line, and run rapidly. Leader suddenly stops and the line is drawn up with a jerk, requiring much strength to keep from letting go of hands.

School Ball. With two balls. *Rounders.* A ball game.

Fungo. One bats flies. When one of the others catches three flies he takes his turn at batting.

Wrestling. *Bull in the Ring.*

Wicket. One bowls at a wicket, the other guards. Several may play.

Jack Straws.

XUM

CHEST.

Bubble Bowling. Bowling bubbles by blowing them along a table between two pegs or through wickets.

Blowing out Candles. Blowing out candle blindfolded, or from longest distance possible.

Running Games of this Grade.

BACK, WAIST, AND ABDOMINAL MUSCLES.

Tug of War. *Wrestling.*

Battle for the Banner. Two sides with captains. One has possession of a part of the playground, best a hillock, and floats a banner. The other side strives to get possession of the banner.

Rounders.

Buck Back. One places his head against a wall, another mounts his back and holds up certain number of fingers, saying: "Buck Back, how many fingers do I hold up?" If the "Buck" guesses correctly, the other becomes "Buck."

LEGS.

Jumping Rope. *Racing.* *Foot Ball, American Game.*
Rounders. *Cross Tag.*

Hunting Tag. Hunter and rabbits. Hunter tags rabbit three times and rabbit becomes a hound. Hound can catch and hold a rabbit, but hunter must come and tag.

Green Wolf. One blinds, the others hide, as in I Spy. When one can succeed in getting in to blind post without being caught, he kicks away a stick placed at the post and shouts, "Green Wolf!" This releases those already caught if they can escape before this stick is replaced.

GRADE VI.

HAND AND ARM.

Base Ball. *Pitch Stones.* Two boys alternate in pitching stones at one another's.

Net Tag. Similar to Bound Hands.

Wrestling. *Graces.*

Giant Stride. From a high thick pole are suspended ropes reaching to the ground. These are fastened so as to turn around the top of the pole. Players grasp their ropes and run around, swing, jump, vault, etc.

Mumble the Peg. Peg is a stick of wood 18 in. long. Is thrown so as to stick in the ground. Second player throws his peg to knock first peg down.

CHEST.

Running Games of this Grade.

BACK, WAIST, AND ABDOMINAL MUSCLES.

Leap Frog. *Tug of War.*

Snow Fights. Snow balling, storming, snow forts, etc.

Battle for the Banner.

Graces. Players have two sticks, by means of which they throw and catch a small hoop.

Giant Stride.

LEGS.

Foot Ball. American game. *Leap Frog.*
Base Ball. *Fly the Garter.* Varia. of Leap Frog.
Hare and Hounds. *Last Man's Jump.* "
Jumping. *Prisoner's Base.* *Follow Tag.*
Graces. *Giant Stride.* *Green Wolf.*

GRADE VII.

HAND AND ARM.

Base Ball.
Twisting Sticks. Two grasp a round stick and raise it over their heads. Then the stick is brought down below their waists. The stick must turn in the hands of one.
Broad Sword. Fencing with sticks.
Nigger Baby or Roly Poly.

Tug of War.	*Gymnastic Tricks.*	*Breast to Mouth.*
Dot Carry Two.	*Lifting Chair by Round.*	*Battle Ball.*
Pulling Sticks.	*Hand Wrestle.*	*Long Reach.*
Metten.		

CHEST.

Running Games.

BACK, WAIST, AND ABDOMINAL MUSCLES.

Bowling.
Knights. The knights ride upon the shoulders of other boys and attempt to unseat each other.

Leap Frog.	*Basket Ball.*	*Tennis.*
Hockey.	*Wrestling.*	*Broad Sword.*
Tug of War.	*Dot Carry Two.*	*Long Reach.*
Taking Chair from Under.		*Battle Ball.*

LEGS.

Foot Ball, American Game.		*Base Ball.*
Racing.	*Prisoner's Base.*	*Basket Ball.*
Hare and Hounds.	*Jumping.*	*Tennis.*
Bump Knee.	*Battle Ball.*	*Metten.*

GRADE VIII.

HAND AND ARM.

Base Ball.	*Foot Ball.*	*Tug of War.*
Basket Ball.	*Hand Ball.*	*Boxing*
Golf.	*Quoits.*	*Gymnastic Feats.*
Metten.	*Battle Ball.*	

CHEST.

Running Games.

BACK, WAIST, AND ABDOMEN.

Basket Ball.	*Tennis.*	*Boxing.*
Battle Ball.	*Tug of War.*	*Boomerang Game.*
Bowling.	*Golf.*	*Quoits.*
Taking Chair from Under.		

XUM

LEGS.

Base Ball.	*Foot Ball.*	*Basket Ball.*
Racing.	*Tennis.*	*Jumping.*
Boomerang Game.	*Boxing.*	*Golf.*
Prisoner's Base.	*Metten.*	*Battle Ball.*

Games furnish a physical and moral training for children fully equal to the mental. Especially as a means for physical training is the worth of games now becoming recognized. In Germany, where so much attention has been paid to gymnastics, there is already a very strong movement in favor of games. In many German towns games have been introduced into the schools. The first general congress for the furtherance of play was held at Berlin, Feb. 3-4, 1894. The meeting was enthusiastic. More than one hundred German cities, or vereins, were represented, and not less than fifteen administrative educational bodies were present. The sentiment expressed was that the plays of the youth were of national importance. In Austria, also, games are receiving much attention. At Budweis, for example, in 1892[1], was used the schedule of games printed on page 131:

The weak point in gymnastics is that they furnish no recreation. The same nerve centres which were under tension during study are called into action in gymnastic exercises. The strong point in games is that while they furnish a zest and vigor in the exercise of muscles, never equaled in gymnastics, they afford recreation also. A comparison of the results obtained by gymnastics with German children, and those obtained by games with English children, is to the advantage of the latter.[2] Raydt, in "Das Jugend Spiel," says[3]: "On account of their joyous and refreshing influence, the place of games cannot be filled by gymnastics." In view of the admiration so universally manifested for the physical culture of the ancient Greeks, it is interesting here to note what Prof. Mahaffy says[4]: "I say it quite deliberately—the public school boy who is trained in cricket, foot-ball and rowing, and who in his holidays can obtain riding, salmon fishing and shooting, enjoys a physical training which no classical days ever equaled." Special attention is called to the games under Physical Training, in the Course of Games. It is not desirable that these games supplant gymnastics, but it is desirable that these, or others, be used in every school. Any teacher, with a little study, can prepare a course of games for her school and fit herself to teach them.

Space does not permit further discussion of the moral influence and significance of games. Froebel, and students of Froebel, have said much on this subject, especially as regards young children, and occasional mention has been made by others, notably Benjamin Franklin, Wellington, Ruskin, and the many authors of books of games. The careful study of plays and games is of great importance in determining the true order of studies. Certain games are valuable as a preventive and corrective of chorea and hysteria. It would be interesting, also, to consider certain miscellaneous games not mentioned in the table, including All-Hallowe'en, Christmas, May Day games, sleight-of-hand tricks, parlor magic, charades,

[1]See Burgerstein, "Hygienische Fortschritte der österreichischen Mittelschulen seit Sept., 1890." Wien, 1893, s. 28.

[2]"Seventh Annual Report of State Board of Health of State of Maine," p. 229.

[3]D. J. p. 22.

[4]"Greek Education," Chap. III., p. 21-22.

SPIELPLAN FÜR DIE MITTELSCHULEN IN BUDWEIS, 1892.

Spieltage.		Gleichzeitiger Aufmarsch von Allen Theilnehmern.		
		I. u. II Classe.	III. u. IV. Classe.	Oberclassen.
5 Mai	13 Juni	Komm mit! Wanderball (1 Ball) Schwartzer Mann	Kreismette Hinkkampf Schlag laufen	Wettlauf. Ringkampf. Reiterball.
9 u. 12 Mai	20 u. 23 Juni	Wettlauf Gänsedieb Geier und Henne Mettenspiel	Gesellschaft-Bock sprung Fuchs zu Loch Wettlauf Seilziehen	Gesellschaftsübung im Tragen. Bärenschlagen. Kreismette. Drittenabschlagen.
16 u. 19 Mai	27 u. 30 Juni	Gärtner Pelzen Hinkkampf Schwungseil	Marschübung mit Schwenkung Wanderball mit 2 Bällen Bärenschlagen Stehball	Seilziehen. Wettlauf. Steinstossen. Barlaufen.
23 Mai	4 u. 7 Juli	Schlängellauf Schnecke Katze u. Maus Jagd Ballrathen	Drittenabschlagen Mettenspiel Wächter und Dieb Schneide-oder Hockezeck	Wächter und Dieb. Fussball Fuchs zu Loch. Gewerfen.
30 Mai 2 Juni	11 u. 14 Juli	Fuchs zu Loch Plumpsach Nationalball Zecke	Fussball Seilziehen Jagd Topfschlagen	Ziehkampf. Burgball. Hinkkampf u. Stabringen. Deutsches Ballspiel.
9 Juni		Corporal Rufmette Seilziehen Guten Morgen Herr Fischer!	Tag und Nacht Schwangseil Ziehkampf Wettlaufen	Dritten abschlagen mit dem Ball. Barlauf. Steinstossen und Wettspringen. Reiterkampf.

child dramas, toys illustrating principles in physics, which are often made by boys; toys in general, home experiments in chemistry, etc. It is hoped that a careful study of all these will soon be made.

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XUM

THE STUDY OF THE BOYHOOD OF GREAT MEN.

By A. H. Yoder.

The modern school, especially the public school, is obliged to study and practice mass teaching. It is bound both as a servant of the state and as a recipient of public funds to do the greatest good for the greatest number. It must aim at the average child in everything from method and subject matter down to the dimensions of the school seat, hence it is that every study of children by average methods which enables us to address everything to the "mean" child, also does most for the largest number of children. Thus it happens that children who are exceptional in stupidity or in brightness are not so well ministered to as the average child. Both the dullard, who is too slow to keep pace with the class or grade, and the boy or girl of high grade, who is too fast, suffer. For the one the whole material of school is applied, to use an old simile, as water is poured from a tub into a very narrow necked bottle,—there is *some* gain, but great waste. For the other the waste is of juvenile talent and ability; such children grow placid, slow, and form settled habits of idleness, because their powers are not adequately exercised. Their superfluous energies find vent in mischief or in discontent, and they miss the chief result of school discipline,—the development of power to do stated work worthy of their best ability.

To meet this condition some teachers consciously advocate and practice a mode of work adapted to children a little above the average, thinking that the greater service done the upper half of the class more than justifies the less service done to the lower half; or perhaps with unwise sympathy they spend more time and effort with the dilatory. Other teachers, unconsciously perhaps, from a natural love of method, which has its chief use for slow children, "mascerate the material of the course of study, as the mothers of many savage tribes first chew the food for their weaker children," until they really serve the slowest portion of the class, or from a dominant love of subject-matter drift to the other extreme and minister to the élite portion. Each extreme of ability has its own peculiar charm for the teacher; very slow children, perhaps idiots, even animals, best show the triumphs of methods wrought into elaborate perfection by the everlasting analysis so often overdone in normal schools; while bright children are the delight of the teacher with a specialty. Philanthropic love of children is the Scylla, and an unbalanced zeal for the special subject, the Charybdis between which the public school must hold its tiller true.

We come thus upon two needs as well as two dangers of modern pedagogy. We ought to have a careful study of the modes of training dullards, idiots and defectives of all kinds. This would give teachers needed warnings and valuable resources. But still

more does the modern teacher need to recognize and treat talent in the child. Our methods of mass education have almost destroyed this faculty in public schools. Every day in every school unnamed crimes are committed against the soul,—the best children suffering most; not only is their talent undetected and unaided, but often positively discouraged or even blighted. No institution in the world, save the public school, has hitherto been able to exterminate the divine gift of curiosity, which is one of the chief marks of early promise, or "tone down a Pegasus to the pace of a medium roadster." The fable of the "Ugly Duckling" is, alas, too often illustrated in the modern school room.

It has seemed to me, therefore, that a needed service might be done teachers by a more careful study than has heretofore been made of the early years of great men, in order that we may at least increase our chances of knowing ability when we see it in the school room, and have some idea how to treat it; such a study would be of more educational value than a study of defectives, because genius and talent can be helped in less time than inferiority. Hints, light touches, personal encouragement and direction to youth of talent take little time and energy, and are often the most paying investment of time and strength. It was with this end in view that I began to consider what resources were at hand toward such a study of individual pedagogy.

The material is of two kinds: biographies, single or in vast collections; memoirs, autobiographies and the like, in large numbers; and a few scientific studies of great men made for various purposes, but containing much valuable data. Of the first class Stevenson says in his "Historic Personality": "In modern times the number of books relating to men's lives has grown with extraordinary rapidity. Concurrently with the increase in the world's civilized population, the ever flowing stream of biographical literature gathers volume and strength. It is a far cry from Bishop Bale's "Summary of the Illustrious Writers of Great Britain," printed at Ipswich in 1548, to such monumental works as "Biographie Universelle" or the "Dictionary of National Biography." The most gigantic undertaking, as well as one of the oldest, is the "Acta Sanctorum" or "The Lives of the Saints," by the Bollandist Fathers, the first volume of which was issued at Antwerp in 1643, and the last, the sixty-first, at Paris in 1875, and yet the work is not completed. The Catholics have always made the selection of their great men upon the basis of goodness, and in these sixty-one volumes of a thousand pages each, are arranged for each day of the year the saints of the church, with a full account of the life and work of each.

A valuable estimate of the men who have been the greatest of the world's benefactors is "The Stream of History: A Chronological Chart of the Hundred Greatest Men of the World," London, 1879, with a general introduction by that judge of great men, Ralph Waldo Emerson. In the preparation of the work "an attempt has been made to separate the facts of civilization into classes, and to gather together in each class the portraits of the few great leaders who from the beginning of history down to the present time have been its representatives." The classes are poetry, art, religion, philosophy, history, science, politics, industry.

Comté's "Positivist Calendar", published in 1849, is valuable in that "it is designed to convey a vivid impression of the *synthetic* or organic character of man's general progress. For this reason it takes note only of work of a constructive and creative kind, and the most eminent destructives, revolutionists, and protestants have no place. The main object has been to give an estimate of

the effective work of each, and his contribution to civilization. There are in all 558 names of eminent men and women in this Calendar distributed into four classes of greater or less importance; they embrace religion, poetry, philosophy, war, statesmanship, industry, and science."

The above are some of the most reliable and worthy collections of biographies. There are numerous other smaller and less valuable collections, represented by such groups of worthies as the Forty Immortals of the French Academy, all containing more or less available data. Of single biographies there are many, of which a large part are useless, some good, and a few of great value.

Of the study of great men, I wish to mention a few of the best. One of the earliest ones is "Histoire des Sciences et des Savants depuis deux Siècles," par Alphonse de Candolle, Geneva, 1873.

M. Candolle undertakes to disprove the influence of heredity, as set forth by Galton in his "Hereditary Genius," by an analysis of the social and political conditions under which the principal men of science lived in four epochs, 1750, 1789, 1829, and 1869. He draws his material from the list of foreign members of the three great European scientific societies, the French Academy, the Royal Society, and the Academy of Berlin, selecting about fifty names from each. This is a valuable study, but shows prejudice. His conclusions regarding the influence of religious tolerance upon the production of great men of science are valuable.

This work was the cause of Francis Galton's making a parallel study of over one hundred English men of science supplementing his "Hereditary Genius." In his "English Men of Science," he says the intent of the book is to supply what may be termed a natural history of the English men of science of the present day. It describes their earliest antecedents, including the hereditary influences, the inborn qualities of their mind and body, the causes that first induced them to pursue science, the education they received, and their opinions on its merits.

"The Man of Genius," by Lombroso, with its "idea that genius is a special morbid condition," is a most interesting study, but full of inaccuracies, if, indeed, the theme is not wholly wrong—a book in which the first words of the author concerning preceding editions are prophetic of the future editions. He begins the preface thus: "It has never before happened that in the latest edition of a book I have had to disown so much in preceding editions; my first imperfect and spontaneous idea has never before been so modified and transformed."

Another study which, while not scientific, contains much valuable information concerning great men of all ages and countries, is "Life and Labor, or Characteristics of Men of Industry, Culture and Genius," by Samuel Smiles.

Two literary works deserve mention in this class because of their suggestiveness. They are Emerson's "Representative Men" and Carlyle's "Hero Worship."

I.

In making up my own list I have been guided by three considerations: First, that the men should be modern, because the conditions of their education would then be more closely related to those of the present. Excepting Newton, Swift, and Voltaire, all were born in the last or present centuries. Second, that the number, though small, should include a sufficient variety of occupations, professions and kinds of education to avoid any narrowness that

might arise from a study of men of one class. Third, that the data should be reliable and as complete as possible upon the early years and school life. Autobiographies and memoirs have been used when possible. No attempt is made to define talent, genius, greatness, success, and like terms, nor to establish the right of any person to a place in such a list, nor to show that these fifty are the best possible list. Being a preliminary study, no attempt is made to establish more than the importance of pedagogic study of "the childhood of those privileged men who, under various claims, have acted a brilliant part on the stage of the world." Of the fifty persons selected for study, six are alive; three were born in the seventeenth century, twenty-six in the eighteenth, and twenty-one in the present century. Of countries represented, Great Britain has twenty-two, the United States fifteen, France four, Germany six, Italy two, and Russia one.

The names are arranged according to the order of birth. The date of the first edition of the biography and the date when written in case of autobiography are given. Under "family data" are given in column 1, first the time exact (Ex.) or approximate (Ap.) of the time between the birth of the great man and the previous child or marriage; and second, the average time between the birth of the children of the same family. Column 2 shows the number of children for which I have data, and upon which the second set of figures in column 1 is based. Column 3 shows, first, the number of living children, or those who are old enough to have any influence upon the great man; and second, the number born to the parents of the great man, but does not include half brothers or half sisters. These are indicated by X.

For example, Alfieri was born the second child in a family of three. The youngest child died, hence he becomes the youngest child so far as family influence is concerned. His father dying soon and his mother marrying again, there were half brothers or sisters, hence the X. Y. means "young," O. S. means "only son," Y. S., "youngest son." Column 4 shows the age of the father and of the mother at the time of the birth of the great man. In some cases the date was found by subtracting the year of the father's birth from that of the son's, but usually it is the exact time.

In the last column is a brief statement of the kind of education of each man. "Home" refers to education by father, mother, or some one of the family; "Private," to instruction by a private teacher at home or in the house of the instructor.

Physical Characteristics of Parents.

From study of the following table it appears that the average age of the parents at the time of the birth of the great manchild for thirty-nine fathers and twenty-five mothers, is 37.78 years for the former and 29.8 years for the latter. Although there are few cases, the results are interesting, because they are in agreement with those of Galton, who finds the average age of the parents of one hundred English men of science to be thirty-six years for the fathers and thirty years for the mothers. While men of his list are all *living English scientists*, my list covers over two hundred years of time, several countries, and at least fifteen varieties of occupation. Both studies would seem to show that the child born of parents in the prime of physical life has the better chance of greatness. Both results conflict with Lombroso's theory, which he took from Mosso, that "the number of men of genius and even of talent issued from aged fathers is very great." In my list are Johnson, whose father

XUM

No.	Dates.	Name.	Occupation.	Authority.	Date.	Family Data. 1	2	3	4	Education.
						yrs. mos.				
1	1727 1642	Newton	Scientist	Dan. Brewster	1833			x. 1-1	36	Day School, Academy, Cambridge.
2	1745 1667	Swift	Author	Autobiography John Forster	1727 1876	Ap. 1 Ap. 1	2	o. s. 2-2		Kilkenny School, University of Dublin.
3	1778 1694	Voltaire	Author	John Morley Jas. Parton	1872 1881	Ap. "5" Ex. 2 10	4	4-4	45 33	Home, by abbes, Louis-le-Grand.
4	1758 1703	Edwards	Philosopher	Alex. V. G. Allen Jared Sparks	1889 1837	— — — Ex. 1 9.5	5	o. s. 5-11	34 31	Home, Private, Yale.
5	1790 1706	Franklin	Statesman and Scientist	Autobiography	1771	Ex. 2 1 Ex. 2 2.4	10	y. s. 8-10	48 38.5	Grammar School, 1 yr., Writing School, 1 yr., Self-Educated.
6	1784 1709	Johnson	Author	Lieut.-Col. Grant Boswell	1887 1791	Ex. 3 3 Ex. 3 0	2	1-1 1-2	53 40	Private, Two Grammar Schools, Oxford.
7	1799 1732	Washington	Statesman and General	W. Irving Jared Sparks	1855 1855	Ex. 1 11 Ex. 1 6.5	6	x. 1-6	38 25	Country School, Mr. Williams' School, Self-Educated.
8	1819 1736	Watt	Inventor	Muirhead Arago	1859 1859			1-2 4-5	37 33	Self-Educated, Common Schools.

No.	Dates.	Name.	Occupation.	Authority.	Date.	Family Data.				Education.
						1	2	3	4	
						yrs. mos.				
9	1794 1737	Gibbon	Historian	Autobiography	1782	— — — Ex. 1 9.3	6	1-1 1-7	30 27	Private, Westminster, Oxford.
10	1826 1743	Jefferson	Statesman	Autobiography Jas. Parton	1820 1884	Ex. 1 6 Ex. 2 .5	8	o. s. 3-8 3-10	35 23	Day School, Private, Mr. Maury's, William and Mary's.
11	1803 1749	Alfieri	Dramatist	Autobiography	1790			o. s. x. 2-2 2-3	60 y.	Priests, Academy.
12	1832 1749	Goethe	Poet	Düntzer Autobiography	1811	Ex. 1 1 Ex. 1 9	5	1-2 1-6	39 19	Home, Private, Leipsic, Strasbourg.
13	1828 1757	Blake, William	Poet and Painter	Ellis and Yeats	1893			2-5		Home, Drawing School, Self-Educated.
14	1804 1757	Hamilton, Alex.	Statesman	John C. Hamilton	1834			y. of several.		Private, Grammar School, Columbia.
15	1805 1759	Schiller	Poet	Düntzer	1883	Ap. 2 0 Ex. 3 .3	3	o. s. 2-6	36 27	Home, Private, Duke's School, Stuttgart.

No.	Dates.	Name.	Occupation.	Authority.	Date.	Family Data.				Education.
						1	2	3	4	
						yrs mos.				
16	1763	Richter	Author	Autobiography	1818	10 Ex. 2 3	6	1–4 2-7	36	
17	1852 1769	Wellington, Duke	General	G. N. Wright	1841			4-9		Private, Eton, Angers.
18	1832 1769	Cuvier	Naturalist	Memoirs by Mrs. Lee	1833	— — — Ap. 1 4	3	1-2 2-3	54 y.	Home, Elementary Latin, Gymnasium, Académie Caroline, Stuttgart.
19	1821 1769	Napoleon	General	Arthur Lévy Henri Taine	1894	— — — Ex. 1 6.5	13	2-13	23½ 19	College of Antem, Brienne, Paris Military School.
20	1832 1771	Scott	Novelist	Autobiography Lockhart	1808 1836	Ex. 2 8 Ex. 1 4.5	9	3-5 10-12	42	Home, Dame, Grammar School, Edinburgh.
21	1848 1781	Stephenson	Engineer	Smiles	1858	Ex. 2 3 Ex. 2 6	6	2-6		Self-Educated.
22	1852 1782	Webster	Statesman	Autobiography Geo. T. Curtis	1829 1870	Ex. 1 9 Ex. 1 10.2	4	y. s. 4-5	43 42	Country School, Phillips Exeter, Private Preparatory, Dartmouth.

No.	Dates.	Name.	Occupation.	Authority.	Date.	Family Data.				Education.
						1	2	3	4	
						yrs. mos.				
23	1852 1782	Froebel	Teacher	Autobiography	1827			5-5		Girls' School, Private, Jena.
24	1824 1788	Byron	Poet	Th. Moore	1868	Ap. 2 6 Ap. 2 6	1	1-1	37	Day School, Private, Grammar School.
25	1856 1788	Hamilton, Wm.	Philosopher	Memoirs by John Veitch	1869	Ap. 1 10 Ex. 1 6	4	1-2 3-4	30	Home, Grammar School, Edinburgh University, Oxford.
26	1822 1792	Shelley	Poet	Prof. Dowden H. S. Galt Wm. Sharp	1888 1887	Ex. — 10 Ex. 2	7	o. s. 1-7	39.5	Private School, Academy, Eton, Oxford.
27	1873 1793	Macready	Actor	Autobiography				1-1 5-8		Elementary School, Rugby.
28	1842 1795	Arnold, Th.	Teacher	Memoirs by Stanley	1845			y. s. 7 —		Home, Winchester, Oxford.
29	1871 1795	Dumas, Alex.	Dramatist	Fitzgerald	1873			o. s. 2-2	40 y.	Home, Private, Apprentice.

No.	Dates.	Name.	Occupation.	Authority.	Date	Family Data.				Education.
						1	2	3	4	
						yrs. mos.				
30	1882 1803	Emerson	Author and Philosopher	Cabot Holmes	1887 1885	1 9.8 Ex. 1 9.7	8	2-5 3-8	34 38½	Grammar School, Latin School, Harvard.
31	1873 1806	Mill	Philosopher	Autobiography	1873	Ex. 11 — — —		1-9	33 24	Home, by Father.
32	1882 1807	Garibaldi	General	Autobiography	1859	F. sailor. Ap. 3 Ex. 6 8	2	2-4 2-5	41 31	Private, Self-Educated.
33	1882 1807	Longfellow	Poet	Samuel Longfellow F. H. Underwood	1886 1882			2-8	31 29	Public School, Private Academy, Bowdoin.
34	1865 1809	Lincoln	Statesman	Nicholay & Hay Herndon	1890 1888	Ex. 2 0 Ex. 1 4	2	o. s. 2-2 2-3	x. 31 26	Country School, 1 yr., Self-Educated.
35	1892 1809	Tennyson	Poet	Arthur Waugh	1893	Ap. "1" — — —		3-12	30 29	Public Gram. School, Private, Home, Cambridge.
36	1882 1809	Darwin	Scientist	Autobiography	1876	— — — Ex. 2 9	5	y. s. 6-6	43 44	Day School, Grammar School, Edinburgh, Cambridge.
37	1849 1809	Poe	Poet	Woodbury	1885	1 10 1 7	3	1-1 2-3	30 30	Private School, Eng. Preparatory School, University of Pa.

No.	Dates.	Name.	Occupation.	Authority.	Date.	Family Data. 1	2	3	4	Education.
38	1872 1811	Greeley	Editor	Autobiography	1868	yrs. mos. 1 4 Ex. 1 5	4	1-5 3-7	30 27	Country School and Printing Office.
39	1870 1812	Dickens	Novelist	Robert Laughton John Forster	1883 18	Ap. 1 6 2	8	2-6 2-8	26	Home, Giles, Academy, Private.
40	1887 1813	Beecher	Preacher	Lyman Abbott	1883			ex. 8-9	37 37	Private School, Boston Latin School, Preparatory School, Amherst College.
41	1815	Bismarck	Statesman	Charles Lowe	1886	— — — 2 3	4	y. s. 2-3 4-6	44 25	Boarding School, Gymnasium, Göttingen University, Berlin University.
42	1880 1819	George Eliot	Author	J. W. Cross	1885	Ap. 2 6 Ex. 2 3	3	3-3	46	Girls' School, Home, Miss Latham's School, Miss Wallington's Sch. Miss Franklin's School.
43	1891 1819	Lowell	Author	Charles E. Norton Chas. Underwood	1894 1882	— — — Ex. 2 4.5	5	6-6	37	Private School, Harvard.
44	1819	Ruskin	Author	Autobiography J. M. Mathar	1874 1883			1-1		At Home, Traveling, Oxford.

No.	Dates.	Name.	Occupation.	Authority.	Date.	Family Data.				Education.
						1	2	3	4	
						yrs. mos.				
45	1875 1819	Kingsley	Author and Preacher	Mrs. Kingsley H. C. Ewart	1876 1889			o. of several.	37	Private, Home, Preparatory School. Cambridge.
46	1822	Hale, E. E.	Author and Preacher	Autobiography	1887	Ex. 1 7 Ex. 1 10.5	11	4-7 4-11	38	Dame School, Public School, Boston Latin, Harvard.
47	1825	Tolstoi	Historian	Autobiographical Sir Grant Duff	1893			4-5		By Priests, Saint-Nicholas, Issay Sem.
48	1887 1848	Jefferies	Writer	Autobiographical P. A. Graham	1891			o. s. 1-4 2-5		Printing Office, Self-Educated.
49	1848	Edison	Inventor	Denslow & Parker J. B. McClure	1887 1879			3-3	42.5 37	By Mother, Public Sch., Two mos. Self-Educated.
50	1859	William II.	Statesman	Poultney Bigelow	1892	Ex. 1 Ex. 2 4.5	6	1-6	27 18	Private, Gymnasium, Bonn University.

was 53, Alfieri, whose father was 60, Cuvier, whose father was 54, from old fathers; but on the other hand there are Tennyson, whose father was 30, Dickens, whose father was 26, and Napoleon, whose father was not 24 years of age, great men whose fathers were young.

In regard to other physical characteristics of the parents of the great men in this list, I have meagre data, but one is struck with the number of times the beauty of the parents, especially of the mothers, is spoken of. Part of these references are here given:

The mother of Sir William Hamilton "was noted for good looks; her appearance was handsome and striking." Napoleon's mother was "one of the most beautiful and accomplished young ladies of Corsica." Washington's father married the second time "a young and beautiful girl." Alexander Hamilton's mother was "a very beautiful woman." Lincoln's mother, "a woman of beauty in her youth." "Mr. Timothy Shelley was married in October, 1791, to Elizabeth Pilford, ... whose rare beauty descended to her children." Samuel Longfellow says of his mother; "Beautiful in her youth, she retained it through later years." A newspaper of the time speaks of Poe's mother as "the beautiful Miss Arnold, whose powers as an actress commanded admiration." Wilhelm Görlach says, "The mother of Bismarck shone everywhere by her wit and beauty." "Goethe's mother was a beautiful woman even in old age." And of the mother of Edwards it was said that "his young wife was a pattern of grace and culture and dignity."

The last quotation is typical, and many similar ones relating to the parents of different great men on the list could be cited. The beauty of the fathers also is often mentioned. Scott, for example, says of his father: "His person and face were uncommonly handsome, with an expression of sweetness of temper which was not fallacious." Clinton says of Byron's father: "He was handsome, brave, and a libertine." Dumas' father was "a handsome creole." Dr. Lowell says of Emerson's father: "He was a handsome man, rather tall, with fair complexion." "Of personal beauty Dr. Lowell was not deficient."

These facts seem to further the view that there is an hereditary physical basis for talent at least, and perhaps for genius.

Average Number of Children.

The average number of children in the family is 6+. This includes all the children born to the parents of the great man, but no half brothers or sisters. Galton finds 6.3 as the total number of brothers and sisters, including the great man himself, and says "the families are usually large to which scientific men belong." There seems to be a feeling at present that in a small family a child has a better opportunity for success, and a belief in physiological conservation which gives to two or three children the brains of six or eight children, hence the prevalent desire for small families. With a large number of cases the effect of maternal rest upon the production of genius might be determined. This point has not been studied fully even for the limited number in the table, the data not being easily accessible and in some cases given only approximately. But it is interesting and worthy of note that the time between the birth of the previous child or the marriage and the great manchild is 22.87 months for twenty-six cases, while the average time between children of the family is 25.36 months for thirty-three cases. I believe that a further study would show that the above results are substantially correct. The fact that the families in which great men occur are large and that the average time between the birth of the

XUM

children is comparatively short, seems to illustrate the biological law of judicious use of a function.

Position in the Family.

A child can have two positions in the family; he may be born last and yet be the only child. In nearly all families, death has made changes. For this reason two sets of results are given: first, the position given by birth; and second, the position in which the child lived:—

By birth 11 are only sons and 16 are youngest sons. Practically 17 are only sons and 14 youngest sons.

The position by birth can be shown by a line, A being the first child, B the middle child, C the youngest child, E the older half and F the younger half of the family, as follows:

9	15	4	5	8
A	E	B	F	C

Practically the 50 lived in this position:—

19	13	2	5	11
A	E	B	F	C

From these results we see that by birth the chances of greatness are as 24 is to 13, and practically as 32 to 16, that is, as two to one, in favor of a child of the older half of the family. Here again my results agree with Galton, who finds "that elder sons appear nearly twice as often as younger sons." This is the more remarkable because of the fact that I did not consult Galton until after my list was selected. Of the meaning of position in the family Galton follows his results by this statement: The older sons are "more likely to become possessed of independent means, and therefore able to follow the pursuits that have most attraction to their tastes; they are treated more as companions by their parents and have earlier responsibility, both of which facts would develop independence of character." The younger child of a family may become a great man, but the two studies show that the conditions are more favorable in case of the older child. A study of the comparative advantages of children in the older and younger part of the family would give some valuable pedagogical light.

Physical Health.

Among biographers there seems to be a tendency to contrast mental greatness with physical weakness. It seems to be a psychological illusion to which all older biographers were prone, and is no doubt a relic of the old and persistent idea that the body is inversely as the mind. To illustrate this, which may be called the biographer's fallacy, let me give some examples from the lives of the earlier men of the list. Isaac Newton was so small that "a quart mug would hold him;" he was so feeble that no one thought he could live a day, but he did live, though rather small and puny. Of Voltaire's early life Parton says: "He had at first but the feeblest breath of life, and the family did not expect to rear him. Every morning, for several months, the nurse came down stairs to tell his mother that the child was dying, and to discuss some new expedient for saving his life. Gradually he gained strength and became at length a healthy and active child, though never robust." Gibbon says of his own early life: "So feeble was my constitution, so precarious my life, that, in baptism of each brother, my father's prudence successively repeated my Christian

name of Edward." Greeley, according to his own account, "was for years a feeble, sickly child, often under medical treatment, and unable to watch through a closed window the falling rain without incurring an instant and violent attack of illness." And "George (Cuvier) came into the world with a constitution so feeble that his youth scarcely promised manhood." Besides the five quoted, there are Swift, Watt, Alfieri after five years of age, Goethe at birth, Alexander Hamilton, Schiller, Webster, and Byron, and Scott in a degree.

In contrast with the above, let me give a sentence from the life and letters of Lowell: "There was nothing precocious in his intelligence, but from his earliest days he was sensitive to influences of nature and a keen observer, . . . his development was healthy, was full of boyish spirits, liked outdoors better than the school room, and acquired more through his unconsciously exercised powers of observation than through lessons conned from books," says Norton, his biographer of 1894. In the lives of the most modern men there appears none of this "quart mug" method of making great by contrast. Tennyson, Longfellow, Edison, William II, Lincoln, Bismarck, Lowell, Emerson, Beecher, show natural healthy development. Great men have their share of the joys and sorrows of childhood, and no doubt a number of the list really were sickly and feeble. Ill health may be a factor in the development of some children, but it certainly is not a condition of greatness. The favorable influence of ill health is shown in the life of Dickens, who "had always the belief that this early sickness had brought to himself one inestimable advantage, in the circumstance of his weak health having strongly inclined him to reading." But this does not mean that a child must be sickly and feeble in order to become a great reader or a great thinker. I believe the sentiment expressed in the following extract is a part of the fallacy referred to above: "The ill health which at first seemed likely to form an obstacle to his rapid advancement in learning, seems to have had in his case, as in that of many others, only the effect of forming habits of persevering study and of a disregard of temptations to the indolent loss or frivolous waste of time and thought." "I even think it one advantage to me, and am truly thankful for it," says Dr. Priestley in his memoirs, "that my health received the check that it did when I was young; since a muscular habit from high health and strong spirits is not, I think, in general accompanied with that sensibility of mind which is both favorable to piety and to 'speculative pursuits.'" What an encouraging outlook for greatness!

In order to show that great men are abnormal physically as well as mentally, Lombroso gives a list of fifty-eight men of all times who were "famous for short stature," and follows this list by another containing twenty-eight tall men. A writer in *The Nation* of Feb. 15th, 1892, took exception to this among several other fundamental propositions of the thesis, and making an investigation found that on the contrary a larger number of great men were *tall*. I have made no study of height of the men of my list, but accepting the statements of Lombroso and *The Nation*, I give the following classification of twenty of the list: short stature, Napoleon, Gibbon, Blake; medium sized, George Eliot; tall stature, Bismarck, Darwin, Dumas, Emerson, Goethe, Lincoln, Mill, Schiller, Shelley, Tennyson, Voltaire, Washington, Webster, and Wellington. I have incidentally found that Newton was "short and heavy-set," that Kingsley and Lowell were medium sized men, and that Edwards and Richter were tall. This does not present the matter fairly, but shows that tall men lead in the list of fifty men selected with no

XUM

thought of size. Of interest in this connection is W. Townsend Porter's study of 33,500 boys and girls in the St. Louis public schools, in which he finds a physical basis for precocity and dullness. By precocity he means, I take it, brightness as compared with dullness.

Play Instinct.

Noteworthy evidence of the health and strength of many of the men on my list is their interest in active play. Washington had a passion for active outdoor sports, running, jumping, wrestling, etc. Watt took part when his health permitted. Jefferson "hunted, rode, and swam." Schiller was a fearless leader in sports; Stephenson, very fond of athletics; Webster, very fond of angling especially. Byron more interested in sports than in study, especially fond of swimming and riding. Sir Wm. Hamilton was a leader in play, as was also Garibaldi. Longfellow liked all boys' games, but was not rough. Lincoln was the champion wrestler and wood-cutter of his neighborhood. Mrs. Lee says of Cuvier: "When thus driven from study he entered with equal ardor and was foremost in all youthful recreations." Many others show the same love for sport, as Bigelow says of his playmate, the present Emperor of Germany, and his companions: "Into such romps the princes entered heart and soul, giving and taking like the manly little fellows that they were." William II is also "proficient in fencing, an expert shot, a good swimmer and a capital oar;" he also rides and boxes with skill. A child is apt to do what he cares most to do, that is play for him. For this reason Newton preferred to work at his machines, or Darwin in his collecting, or Voltaire to stay indoors and talk with the Fathers, or Shelley to read some ancient lore or try an experiment, or Tennyson to dream. The love for active play depends somewhat upon opportunity and encouragement. About half the list are fond of sport of some kind and often in a marked degree, as in the case of Bismarck, who was a typical German student, a leader in all college scrapes as well as sports. Using play in its wider meaning, I should say that all of my list have been active in some sort of play; and they all illustrate Spencer's theory that the play instinct is a gauge of the culture possibility of a people. In a few cases, as Alfieri, Tolstoi and Shelley, there has been morbidness, but the idea that great men as children have been weak, sickly, and inactive physically, is erroneous.

Place of Living.

Ruskin, Mill and Blake lived in London. Byron was born there, but, like Sir Wm. Hamilton, born in Edinburgh, did not spend all his time in the city. Franklin, Hale and Emerson were born in Boston. Goethe, Poe and Alfieri lived in cities. On the other hand, Lincoln, Jefferson, Washington, Tennyson, Eliot, Jefferies, Webster and Greeley were born and raised in the country, some of them in very obscure places. Lowell, Voltaire, Edwards, Shelley, Bismarck, Tolstoi, William II, practically lived in the country, though near towns. Scott and Sir Wm. Hamilton, born in large cities, spent part of the time in the city and part in the country.

The remainder of the list lived in villages and small towns. It is difficult to state in very exact terms the proportion of men from city, towns and villages, and country, because of the frequent changes of residence, attendance at schools, etc. However, the number who lived in the city is about the same as those who lived in the country. Of the 50 a large part lived in what may be called country towns, which seem to furnish all the advantages of country life

with the better school facilities of the city. The influence of the place of residence can be found in nearly every case. Kingsley, George Eliot, Tennyson, Jefferies, Voltaire and others show this remarkably. Speaking of this influence Fitzgerald says of Dumas:

"He found in these constantly shifting scenes of his childhood the source of all the more developed ideas of his manhood, exactly as in the case of Lamb and Dickens, the sensitiveness of whose childish instincts and vivid power of observation during the same period furnished a whole storehouse which was to supply them abundantly in maturer years."

Of Tennyson's home Waugh says: "The character and scenery of his home life had a more than ordinary share in his development, for he lived in its immediate neighborhood in daily familiarity with the 'grey hillside,' 'the brook' and 'the ridged nolds' for the first twenty years of his life. . . . . The influences of the home-life and home-scenery set their mark upon him very early and never left him."

Others seem not to have been greatly influenced by their surroundings, at least not in the same degree. For example, Emerson's early home, the Summer street region, was a boy's paradise and abounded in opportunities for sport; but "Emerson knew none of these," says Cabot. "He told me he never had a sled and would not have dared to use it on account of the rough boys." Dr. Furness says: "I don't think he ever engaged in boy's plays, not because of any physical inability, but simply because, from earliest years, he dwelt in a higher sphere. Our friend lived and moved and had his being in an atmosphere of letters, quite apart by himself."

Influence of Poverty.

Emerson hardly overestimated the influence of poverty as a stimulus to talent when he wrote: "Yet I can not help saying to poverty, 'Be welcome! provided only that thou comest not quite too late in life.' Riches fetter talent more than poverty: many an intellectual giant may be stifled under thrones and golden mountains. When the oil of wealth is poured on the flames of youth, and especially of the more ardent stronger youth, there will little more be left of the Phœnix than the ashes; only a Goethe has the power to keep his Phœnix wings unsinged in the sun of prosperity." The greater number of my list felt the stimulus of poverty. Who can say how great was the influence of extreme poverty upon the lives of Lincoln, Greeley, Dickens, Swift, Dumas and Stephenson?

The indomitableness of Napoleon was due in no small degree to his poverty. In later years he said of this period:

"At Brienne I was the poorest of all my school fellows. . . I was proud, and was most careful that nobody should perceive this. I could neither laugh nor amuse myself like the others." He was much disturbed because of the luxury and effeminacy of the cadets at the Military School in Paris and thought of addressing a memorial concerning the matter to the governor. On the other hand Alfieri thinks himself fortunate because of his wealthy and noble family. Certainly Poe, Voltaire, Shelley, and Byron were influenced unfavorably by too much money. As, in the case of place of living, extreme isolation is unfavorable, so is extreme poverty. The question of the influence of wealth upon the kind and amount of education of great men needs further study. It certainly is a great factor. Blake would not allow his father to apprentice him to his choice because of the expense, and Macready became an actor on account of his father's financial failure.

XUM

This whole subject of the physical basis of genius and talent and of the influence of environment needs further investigation. It seems from my study that these great men have been born of parents in the period of greatest physical strength, that many parents show physical perfection in beauty; that great men are not born weak and sickly in greater proportion than other children; that they have as healthful development as ordinary children; that tall man predominate; that a large proportion of them took part in sports and physical exercise; and that, like ordinary men, they were influenced by their environment.

II.

In studying a number of great men, like the above, one finds a great deal of data too meagre for generalization, and yet so suggestive as to be valuable. Some of the points upon which noteworthy but inadequate data have been obtained from the biographies mentioned, are the following:

Great men have strong memories. They may be very absent-minded, but in the line of their interest, their memories are sometimes wonderful. This is, perhaps, too apparent to mention, but these men probably showed this same ability as children; at least a strong memory in childhood is mentioned in the lives of Watt, Goethe, Hamilton, Webster, Shelley, Macready, Lincoln, Darwin, Napoleon, Johnson, and others. "In my childhood I was praised for the readiness with which I could multiply and divide, by memory alone, two sums of several figures," says Gibbon in his Autobiography. "Blessed with a memory that retained everything he saw and read, and which never failed him in any part of his career, when twelve years old he was as familiar with quadrupeds and birds as a first-class naturalist," says Mrs. Lee, the wife of an intimate friend of Baron Cuvier. Darwin says of his first school: "Much attention was paid to the learning by heart the lessons of the previous day. This I could effect with great facility, learning forty or fifty lines of Virgil or Homer whilst I was in chapel." Of the boy, Edison, it is said: "Even at this early age (ten to twelve), these authors made such an impression on his mind that he could refer, usually, to the very book and page where any fact, incident, or words used in them occurred. This habit still clings to him." Only a few have spoken of their earliest recollections, but I am inclined to think that great men not only have strong memories, but earlier recollections than the average man. "Thomas Jefferson was not more than two years old when his father moved to Tuckahoe, yet he often declared that his earliest recollection in life was of being, on that occasion, handed up to a servant on horseback, by whom he was carried on a pillow for a long distance." George Eliot remembered very early playing, or pretending to play, on the piano to impress the servant. Some of these men were remakable, also, for their habits of orderly and logical association. Napoleon, for example, says of himself, "Various subjects and affairs are stowed away in my brain as in a chest of drawers. When I want to take up any special business I shut one drawer and open another. None of them ever get mixed, and never does this incommode me or fatigue me. When I feel sleepy, I shut all the drawers and go to sleep."

A good memory is evidently a condition of greatness. "No one, probably," as Prof. James has said, "was ever effective on a voluminous scale without a high degree of this physiological retentiveness. In the practical as well as in the theoretic life, the man

whose acquisitions *stick* is the man who is always achieving and advancing, whilst his neighbors, spending most of their time in relearning what they once knew but have forgotten, simply hold their own. A Charlemagne, a Luther, a Leibnitz, a Walter Scott, any example, in short, of your quarto or folio editions of mankind, must needs have amazing retentiveness of the purely physiological sort. Men without this retentiveness may excel in the *quality* of their work at this point or at that, but will never do such mighty sums of it, or be influential contemporaneously on such a scale."[1]

I believe that a careful study of the boyhood of great men would show them to have more imagination also than the average child. Tennyson's story of "The Old Horse," which took weeks to relate; Dickens' "Tragedy of Misnax;" Kingsley's sermons, preached in an improvised pulpit in his nursery, with a pinafore for surplice, and empty chairs for a congregation; Blake's vision of angels in the tree, encouraged by a sound thrashing because he persisted in saying he really saw them; Newton's tread-mill, with a mouse for water power; Shelley's imaginary alchemist, who lived in an old castle; Stephenson's clay engines, and Edison's attempt to hatch eggs by sitting on them himself, or to get a current by means of a tom-cat,—are all examples. One would hardly suspect Prince Bismarck "to have indulged in versifying to a considerable extent," yet he did, and several others whose late lives have been far removed from poetry. Darwin was imaginative to a fault. He told his friends he could produce any colored flower he wished by watering the plants with certain colored water. This was but a childish exercise of that great scientific imagination which gave the world the theory of evolution. The imagination may show itself in various ways. The child may be dreaming and retiring, as Tennyson, or morbid, as Alfieri; or sensitive, as Tolstoi; or imagination may show itself in much building of things, as in the case of Edison, or Stephenson, or Newton; or it may watch the tea-kettle, as in the case of Watt.

A careful study of the imagination of great men as compared with that of ordinary men might give valuable psychological data.

One form of imagination, what may be called the dramatic instinct, is very strong, manifesting itself in the various ways known to children. They love living and active beings; and the theatre or circus, or even puppet show, appeals to this love more strongly than the characters in books. Goethe's love for acting was very marked and is interesting, as he probably gave his own experience when he made Wilhelm tell Mariane of his theatrical attempts. Alfieri says of his feelings, after having seen a fine opera: "This varied and enchanting music sunk deep into my soul, and made the most astonishing impression on my imagination; it agitated the inmost recesses of my heart to such a degree that for several weeks I experienced the most profound melancholy, which was not, however, wholly unattended with pleasure." Referring to Tennyson's college life, Waugh says, "Among the many interests of the Cambridge circle, amateur theatricals had their place." Longfellow's father used to tell the children about the theatre in Boston, but the boys were forced to substitute circus and menagerie for the more refined theatre. The circus was eagerly attended, and, of course, imitated at home. Mrs. Gibson says: "Then George Stronghill (his chum) would come in with his magic lantern, and they would sing, recite, and perform parts of plays. Charles and Fanny often sang together. . . . A rather favorite piece for recitation by

[1] See James, "Psychology," Vol. I. p. 660.

Charles, at this time, was, 'The Voice of the Sluggard,' from Dr. Watts, and the little boy used to give it with great effect, and with *such* action and *such attitudes*." Of George Eliot when about twelve and her brother it was said: "On coming home for their holidays the sister and brother began, about this time, the habit of acting charades together before the household." In Lincoln this desire to imitate and amuse took a form appropriate to his surroundings, for "it is also reported that he sometimes impeded the celerity of harvest operations by making burlesque speeches, or more than that, comic sermons from the top of some tempting stump." The old people of Black Collerton describe George Stephenson as "quick-witted, and full of fun and tricks — there was nothing under the sun but that he tried to imitate." In Shelley we see still another form of the same desire. He was fond of masquerading, as the following incident shows: "On yet another occasion a lad called upon Col. S., at the Horsham lawyer's house, and asked, in Sussex dialect, to be engaged as game keeper's boy; his wit, it seems, was successful, and then, of course, there was an explosion of laughter, and the jester stood revealed." A still more vigorous form of impersonation is shown in Emperor William. Bigelow says: "Prince William knew Cooper from beginning to end . . . so that our Indian studies usually resolved themselves into impersonating some 'Leather Stocking' heroes." Dickens tells us in "David Copperfield" that "it is astonishing to me now how I could ever have consoled myself under my small troubles (which were great troubles to me) by impersonating my favorite characters in them. . . . I have been Tom Jones (a child's Tom Jones, a harmless creature) for a week together. I have sustained my own idea of Roderick Random for a month at a stretch, I verily believe," and many others, every word of which, says Forster, had been written down as fact, some years before it found its way into "David Copperfield," the only change being in omission of names.

Froebel in his Autobiography states clearly the pedagogical effect produced by good acting. He says: "After I had seen one of their performances, hardly any of those which followed passed without my attendance. These performances made a deep and lively impression upon me, and this the more that I felt my soul at last received nourishment for which it had long hungered. The impressions thus gained lasted so much the longer, and had so much the greater influence on my self-culture, in that after each performance my hour's walk home by dark or in the star-light allowed me to recapitulate what I had heard, and so to digest the meaning of the play. I remember how deeply a performance of Iffland's "Huntsmen" moved me, and how it inspired me with firm moral resolutions, which I imprinted deep in my mind under the light of the stars. . . My visits to the play brought upon me a most unpleasant experience, for my father, when I spoke to him without concealment of my play going, reproached me very bitterly for it. He looked upon my conduct as deserving the highest punishment, which was in absolute contradiction with my own view, for I placed the benefit I had derived from my attendance at the play side by side with what I received by my attendance at church, and expressed something of the kind to my father."

In this love of the dramatic is a source of good not yet recognized by educators. In a few colleges an annual play, usually in some foreign language, is presented, but the utilization of the make-believe instinct is hardly thought of in the education of younger children.

XUM

The value of pictures in early education is illustrated also by many passages.

"In the interior of the house my eyes were chiefly attracted by a series of Roman views, with which my father had ornamented an ante-room. They were engravings by some of the accomplished predecessors of Piranesi, who well understood perspective and architecture, and whose touches were clear and excellent. There every day I saw the Piazza del Popolo, the Colosseum, the Piazza of St. Peter's, the Castle of St. Angelo, and many other places. These images impressed themselves deeply upon me." "It happened also," says Ruskin, "which was the real cause of the bias of my after life, that my father had a rare love of pictures. . . . He used, as a small child, to sit and with his father make pen and ink sketches." Of Dumas it is said: "Above all, there was a splendid illustrated Bible whose pictures he was allowed to turn over, and which left an impression as deep as the ponderous 'stock house' which Charles Lamb's incautious fingers tore. This volume, with an illustrated Buffon which he found at another house, and was privileged to pore over, was an inexhaustible entertainment." At Longfellow's home on Sunday afternoons, "the mother gathered her children around her, to read in turn from the great family Bible, and to look over, and talk over, its rude engravings of Scripture scenes and events." "The child (George Eliot) turns over the book with pictures that she wishes her father to explain to her—or that perhaps she prefers explaining to him." "Now, too, he began loitering about among salesrooms," say Ellis and Yeats of Blake, then ten years old, "on the lookout for cheap prints after Raphael, Angelo, Durer, etc." Cuvier's love for natural history was brought to light by the sight of a Gesner with colored plates and by frequent visits to a house of a relative who possessed a complete copy of Buffon." "As a child, William (Hamilton) took great delight in the natural and graphic picturing of the 'Pilgrim's Progress' and in the scenes of the Apocalypse, the two books, which, above all others, had a charm for him."

The child's love of rhythm and of rhythmical movement is shown in many cases by an early delight in poetry of the Mother Goose style. The child's instinct for rhythm is well shown in the case of Ruskin. His mother took charge of a greater part of his early education and was very severe with him, though for the best, as the following incident shows: "I recollect a struggle between us of about three weeks concerning the accent of 'of' in these lines—

> Shall any following spring revive
> The ashes of the urn?

I resisted, partly in childish obstinacy, and partly in true instinct of rhythm, in reciting it 'The ashes *of* the urn,' while my mother wanted the accent on 'ashes.'"

The comparative ease with which facts in rhyme are learned is well illustrated by Goethe, who says:

"And if the first Latin work had not been in rhyme, I should have got on but badly in that; but, as it was, I hummed and sang it to myself readily enough. In the same way we had a geography in memory-verses, in which the most wretched doggerel served to fix the recollection of that which was to be attained." In his Autobiography Gibbon says: "The verses of Pope accustomed my ear to the sound of poetic harmony."

This rhythmic tendency seems to be well-nigh universal in childhood. Every teacher is familiar with the same obstinate instinct shown by Ruskin; but the value of rhythm in early education has

XUM

usually been neglected, although it has been recognized by a few writers, notably in the series of readers called "The Heart of Oak" series.

The question when we can say to a child, "Know thyself," is a difficult one. A too early awakening to the realization of self is as bad as an ignorance of one's real powers after their development. Dreaming and thinking about self is very dangerous to sensuous natures, especially as it usually comes with the appearance of the sexual instinct. But children today are hustled hither and thither from school to society, from church to athletics; every child belongs to a long list of clubs, societies, and fraternities even—there is no time for the child. He knows his playmates and friends better than himself, probably has spent more time, because of favorable opportunity, in studying his friends than he has in studying himself. I have been forcibly struck with what may be called solitude in the lives of these great men. Either by nature or by opportunity they have thought a great deal alone. Some have loved the woods or solitary walks. For some, sickness no doubt gave the opportunity for self acquaintance and imagination; and in this use lies the advantage of ill health; but to suppose that poor health has any virtue of its own is on a par with the idea in Charles Lamb's "Dissertation upon Roast Pig." For others, country life furnished the opportunity, as in the case of Tennyson, of whom Waugh says: "His spirit was a little too solitary, a little too shy and over-reserved; he ought to have had more of active life and less time to dream." A classmate says of Longfellow: "Rather disinclined to general intercourse . . . . his rambles in the pines and along the river banks, well occupied the uneventful days." Yet he had a "lively disposition" and firm friends. "Besides," says Alfieri, "the perfect solitude in which I lived with my tutor tended to generate a disposition to melancholy and a habit of abstraction after the departure of my sister," of whom he was very fond. This loneliness was also caused by his mother's marrying soon after the death of his father. With Shelley the sorrow mood was present in boyhood too. He loved to walk out alone under the stars, contemplating and musing. Scott says: "My lameness and my solitary habits had made me a tolerable reader." And of Byron it is said: "The love of solitude and meditation is already traceable in the child. He loves to wander at night among the dark and solitary cloisters of the Abby."

No doubt, as Waugh says, there is sometimes too much solitude. Alfieri certainly suffered intensely and was very morbid for a time on account of too great solitude. His was a case of lack of sympathy rather than of too much solitude.

The importance of solitude in education is undoubted, although it has been carried to an extreme by ascetics and others. Emerson certainly recognizes the value both of solitude and of society, but he rightly concludes in favor of the former in the following passage referring to his college life: "'In the morning solitude,' said Pythagoras. By all means give the youth solitude, that nature may speak to his imagination as it never does in company, and for the like reason give him a chamber alone, and that was the best thing I found in college."[1]

The popular idea that the great man owes his success to his mother's influence upon his education has at least many exceptions. The men on my list usually did owe a great part of their education to some one person; but often the mother's place was supplied by that of an aunt or other relative. A few cases are noteworthy.

[1] "Memoirs," Edward W. Emerson, pp. 27, 28.

Mr. Hollister, in his "History of Connecticut," says of Edwards: "He enjoyed the rare advantage, never understood and felt, except by those who have been fortunate enough to experience it, of all the softening and hallowed influences which refined female society shed like an atmosphere of light around the mind and soul of boyhood. Had that fond mother and those loving sisters been fully aware of the glorious gifts that were even then beginning to glow in the eyes of their darling; had they been able to see in its full blaze the immortal beauty that was one day to encircle that forehead, they could hardly have unfolded his moral and intellectual character with more discreet care." Emerson was brought up under the influence of three remarkable women, his mother, Mary Emerson, his aunt, and Sarah Bradford, whose influence is clearly seen in both his life and his writings. Sir Wm. Hamilton's father died young, and he and his brother were cared for by a fond aunt and loving mother. Ruskin recognizes this influence when he says: "We scarcely ever in our study of education, ask this most essential of all questions about a man, what *patience* had his mother or sister with him?" And he might have added, or his aunt; for it is surprising to find so many aunts, who like Gibbon's supplied the maternal office which sickness and the cares of other children prevented his mother from filling. Of her he says: "At her name I feel a tear trickle down. A life of celibacy transferred her vacant affection to her sister's first child. My weakness excited her pity. If any rejoice that I live, it is to that dear and excellent woman that they must hold themselves indebted." Byron's aunt was the one person he both feared and loved. Walter Scott pays a high tribute to his aunt, who spent several years in a vain attempt to cure his lameness. It was Gibbon's aunt who kept boarders to help him through college, of whom he says: "She was the mother of my mind as well as my health." Samuel Longfellow, in praising his mother, refers to his aunt in this way: "Her sister, Lucia Wadsworth, lived with her and was like a second mother to her children." Garibaldi also acknowledges the influence of an aunt.

Fortunately we now have a new departure in biography writing. All the late biographies, as Norton's Lowell, Levy's Napoleon, Nicolay and Hay's Lincoln, Waugh's Tennyson, and others, show the scientific spirit of investigation. We are just beginning to see how unreliable are the estimates of the early childhood of great men; every incident is magnified and given excessive significance in exact proportion to the greatness of after life. Distance in time also lends its enchantment. The records of the growth periods of great men are absolutely unreliable; but that fairly accurate data can be obtained is shown by the excellent biographies named. Lévy aims a blow at the biographer's fallacy when he says; "Every historian, according as he has taken upon himself the character of apologist or detractor, has represented Napoleon during his school days at Brienne, either as a prodigy showing unusual genius, or as an obstinate and underhanded child, foreshadowing the ferocious despot." The importance of adopting the scientific method is shown especially by some of the recent lives of Napoleon. They are in remarkable contrast with the earlier biographies of him.

In the lives of great men, pedagogy has a wonderfully rich mine; but it must be assayed by experts and worked on a large scale with improved machinery, and not with a pick and shovel which touch but the surface here and there. Our later biographers consult original sources, documents, records, and the like, and their results show that even in biography, truth, if not stranger, is more valuable than fiction. Some seem to think it desecration to put

XUM

great characters in the light of truth, but until they are so placed, we can not know how to treat the children to whom the Creator has given ten talents. It is hoped that such studies as this paper will hasten the appearance of reliable studies of individual great men and the recognition of the importance of their early life. One autobiographer has, because of his life work, recognized the importance of an accurate account of boyhood. "Here I break off my narrative," says Froebel, "to ask myself whether I dare venture to pause yet a little longer over this first period of my life. But this was the time when the buds began to unfold on my tree of life; this was the time when my heart found its pivot-point, and when first my inner life awoke. If, then, I succeed in giving an exact description of my early boyhood, I shall have provided an important aid to the right understanding of my life and work as a man. For that reason I venture to dwell at some inordinate length on this part of my life, and the more willingly since I can pass more quickly over later periods. It often suggests itself to me that those things which are by most men thrown aside as common and unimportant, are the very things which are, as I take it, of weighted import. In my eyes, it is always a mistake to leave a gap in the rudimentary and fundamental part of a subject."

LITERATURE.

Les Effets Moraux de l'Exercice Physique. A. Magendie, Directeur d'Ecole Normale, with a Preface by H. MARION, Professeur à la Faculté des Lettres de Paris. 1893. 224 pages.

M. Magendie completes in this book what F. Lagrange began. The latter had studied the physiological effects of physical exercise;[1] the former considers its intellectual and moral influences. It is not a scientific work, we would rather describe it as a contribution to the campaign now carried on in France in favor of physical education. The author has a thesis to prove: "Plays are not, as current opinion has it, a mere recreation, but through them the child makes merrily the serious apprenticeship to the social virtues in an environment in every way favorable to the free expansion of his nature." His comprehensive and often very subtle analysis of the mental and moral effects of out door games, frequently enlivened by personal reminiscences still thrilling with the pleasures or pain of childhood, will hardly fail to convince the sceptic reader.

The only games considered, to the exclusion of the gymnastic exercises performed at the command of a master, are those freely organized by children. The first part—about half the book—treats of the development of the intellect under the stimulus of play considering successively external and internal perception, memory, imagination, abstraction and generalization, judgment and reasoning. It is, in part, summed up as follows: "Study develops mainly memory in the youngest pupils; games exercise on this faculty a very limited influence, but they compel children of all ages to observe and to think. If games do not elevate the mind to the conception of the most abstract and noblest truths, nevertheless they address the judgment of the reason, for, in play, the child never thinks without concrete material and his mind elaborates but such ideas as are accessible to his understanding. Even the essential principles of morality dawn little by little out of the dark consciousness of the child playing in collective games . . . . Study makes the mind pliable and refined, more than collective games, but these give to the mind of the child an incomparable vivacity and to the acquisitive and elaborative faculties an undeniable accuracy."

The moral side of the question occupies the second part of the book. No moral benefit accruing to the child from outdoor sports remains unmentioned: their influence on emulation, on the feeling of honor, on sociability, on sincerity, on the emotions, on the will and patriotism, etc., is severally pointed out. The chapter "Will and Patriotism" deserves special mention. It indicates the position from which our author views the pedagogical problems. For M. Magendie, as for Lavisse, Fouillée, Marion and other promoters of the reform of education in France, the end of education is not the individual but the nation. Patriotism is the moving spring of

[1] Physiologie des Exercices du Corps.

XUM

these pedagogues. "School life must be a preparation to barracks' life" affirms the author. "It would be absurd, I know it, to initiate the young pupils to military manœuvres. But it is proper that they should be strengthened, hardened by exercise, and that their skill at shooting should be developed—physical education alternating in wise proportions with the special education of the intellect and of the heart . . . . Games develop in the youth the true warlike qualities. May French Pedagogy always receive its inspiration from this truth and, above all, may it be wise enough to make it yield practical, lasting and abundant fruits."

The book is written in a clear, pleasing style and would be attractive reading even without the subdued warmth which runs through the whole of it and the occasional burst of eloquence which set aglow many a page. LEUBA.

The Care and Feeding of Children. G. L. EMMETT HOLT, M. D. N. Y., 1894, pp. 66.

This booklet gives the most necessary information to young mothers in the form of question and answer.

The Care of Children. By ELIZABETH R. SCOVIL. Philadelphia, 1895, pp. 348.

Nursing, feeding, toilet, clothing, teeth, eyes, ears, baths, hair, mouth, feet and ailments, emergencies, physical culture, care of boys and of girls. These are the chief topics treated in a sensible and interesting and rather scientific yet popular way.

Physical Exercises of the Play Ground. G. CARL BETZ. Book 4, popular gymnastics. Chicago, 1894, pp. 86.

Wrestling, quoiting, basket-ball, shuttlecock, climbing pole, push, rope-jumping, etc., are depicted, described and methodized.

Illustrated Manual of Hand and Eye Training. By DR. W. GOETZS. London, 1894, pp. 223.

This is a text-book for carpentering, cardboard work, chip carving, metal work, modelling, etc., with 69 cuts. Written by a normal teacher of Giesen, and here translated. It is much more scientific and suggestive than are most such works.

The Special Kinesiology of Educational Gymnastics. By DR. BARON NILS POSSE, M. G. Boston, 1894, pp. 380.

This work is the best exposition of Swedish gymnastics known to us in English. It has 307 illustrations.

The Young Folks Cyclopædia of Games and Sports. By JOHN D. CHAMPLIN, JR., and Arthur E. Bostwick. New York, 1890, pp. 831.

This is a compendium in cyclopædic form of all kinds of indoor and outdoor games, including sports, pastimes, hunting, fishing, swimming, skating, mechanical and electrical toys, chemical experiments, etc. Full directions for playing each game and the rules are given. Generally a brief history of the game is added. The book contains tables showing the locality of game and fish and the months in which the law does not forbid hunting and fishing. The toys and experiments are fully illustrated. In the appendix are given the best records made in athletic sports and the winners in many championship contests. The book is especially well adapted for boys and girls.

XUM

Essay on the Physiology of Writing. By DR. JAVAL. N. Y., 1894, pp. 50.

This is a summary of the famous French expert's well known views. One of his conclusion is that children should use vertical and adults sloping script.

The third edition of Prof. F. Falettis "Manuale di Gimnastica per le Scuole, gli Educatori Femminili e per gli Asili d'Infanzia (Roma, 1894)," has had added to it the series of games and exercises, recommended by the commission, including lawn-tennis. Prof. Mosso, who was a member of the commission, has recently published a scientific and critical work on physical education,—*L'Educazione fisica della gioventù* (Milan, 1894),—in which he relentlessly points out the defects of modern scolastic gymnastics and pleads for speed and thorough reform. A. F. CHAMBERLAIN.

Almost Fourteen. By MORTIMER A. WARREN. N. Y., 1893, pp. 131.

This attractive little volume is designed for use by parents in training their sons and daughters in present modesty and nobility and for future fatherhood and motherhood. Its sixteen chapters are remarkably plain spoken, but on the whole seem to the present writer not too much so, and on the whole, judicious.

The Nationalization of Health. By HAVELOCK ELLIS. London, 1892, pp. 244.

Like the author of the City of Hygeia Mr. Ellis assumes that the mind cannot develop if the body is not healthy. We must keep death down to its proper and natural place. Civilization cannot be built upon unhealthy bodies. Hospitals should be associated and the country mapped into health districts for more efficient medical inspection. The ministry of health is the largest of all offices.

Hygienic Advice for Homes. Drawn up by the Physician of the Public Schools of Stockholm. Sweden, 1893. Translated for the PEDAGOGICAL SEMINARY.

It is of the highest importance that the school and the home should work together for the common aim of the education of children, in order that as good results as possible may be attained for the mental and physical development of children. In the schools we seek to arrange everything in accordance with hygienic rules which experience has shown to be the best. The same rules of health ought also to be observed, so far as possible, in the home. For the information of parents and guardians in their efforts for the best welfare of the children are here given, which, however simple and self evident the most of them may seem, have, nevertheless, not always been followed, as experience has shown.

I. Children should go to bed early—8 to 10 P. M., according to age. The sleeping room should be thoroughly aired an hour before going to bed. The bed clothes should be exposed and well shaken for an hour after rising.

Children require much sleep and should be up early in the morning, hence the necessity for retiring early. Each child should have his own bed; this should not be too soft; a mattress is to be preferred (of hair and excelsior). A child should never be permitted to sleep upon a high pillow. The covering should be light; the temperature not being allowed to rise above 16 or 18°C.

XUM

II. See that the children do not neglect their meals, especially the morning meal. For breakfast, gruel, milk or chocolate boiled with milk, and bread. For dinner and supper the food should be in sufficient quantity and of a nourishing character.

Coffee has been found to be particularly unsuitable for children, especially when taken in the morning. It is very important that they should eat slowly and masticate their food thoroughly so that it may be of its greatest service to the body. Great attention should be paid to the teeth (daily cleansing and frequent visits to the dentist).

III. Children should bathe or wash the entire body with soap, once a week.

Lukewarm tub baths (34°C.) *or mild shower baths are to be preferred. If these, for any reason, cannot be given, the necessary washing should take place in the morning, and preferably upon some day when the child is not obliged to go out for an hour or two afterwards.* In the summer time cold sea baths should be taken; these however may be abused by being indulged in too often or for too great a length of time.

IV. The children should be given an hour's play before beginning evening study, which latter should end a little before bedtime.

V. In reading and writing, as well as in ciphering, see that the children sit as upright as possible; with a good, not too weak light, and with eyes not too near the paper.

It is important to follow this rule in order to prevent nearsightedness, which may easily arise. The light should come from the left side. In reading the book should not be placed horizontally upon the table but should be given an inclination similar to that of the school desk. The head should not be bent forward—as is so often the case, especially in writing—because the pressure of the neck bands or shirt collar is liable to interfere with the circulation.

VI. When children are not engaged in study see that they engage in games and suitable athletic exercises. They should not be allowed to indulge in too much light reading.

Severe athletic contests should be avoided as they are very liable to lead to dangerous overexertion. Limit reading for pleasure and above all things see that the literature is not of such a character as to overexcite the imagination.

VII. See that the children are warmly and not too snugly clad. The clothing in winter should give proper protection against the cold without being too warm for the house. A short overcoat should be used. The clothing should not be tight across the chest or abdomen—this applies especially to the underclothing. Suspenders should be selected of such a character as will not interfere with breathing or the free movement of the arms and body. Belts or circular stocking supporters should not be used. All neck bands should be sufficiently roomy. Shoes should be of suitable size and shape.

The significance and advantage of a uniform school dress, cannot be overlooked. It prevents, in a suitable way, the ambition of young people to excel each other in this respect and so tends to diminish the difference between the children of the rich and the poor, and prevents, in a considerable degree, a small-minded concern about clothing. A uniform school dress would promote order and neatness, since every non-observance could be more easily detected by pupils and teacher if all the children were dressed

alike. This would also reduce the cost of clothing since their manufacture on so large a scale would necessarily reduce the price.

Then follows a description of the dress used at the Norra Latin School and quotation of prices by Nilsson and Dahlbeck, ranging from $7 to $12, according to age, from 6 to 16.

Educazione e Istruzione. Rivista di Pedagogia e Scienze affini diretta da Giuseppe Sergi, Prof. di Antropologia nell' Università di Roma. TORINO, ROMA, MILANO, FIRENZE, NAPOLI, ANNO I. Nos. 1-5, Gennaio.—Febbraio, 1894.

The scope of this new educational journal edited by Prof. Sergi with the assistance of an able staff of collaborators among whom is Signorina Paolina Lombroso, is indicated in the first words of the editor's opening article "Il nostro Programma:" "To treat in the broadest and most comprehensive manner every problem connected with instruction and education, and therefore to deal with every branch of culture and pedagogics, whether scientific or literary, higher, secondary, or primary. The key-words of reform are these: *given new social and individual conditions, the systems of instruction ought to conform themselves to these.* The programme of reform and discussion, as outlined by Prof. Sergi, is as follows: Organic reform of the universities; reform of the faculties; transformation (if not abolition) of some universities; autonomy of the universities and the institution of free scientific bodies as moral entities. Reform of professional instruction; reduction of obligatory subjects, reduction of years of university courses for professional degrees, greater development of the practical side of professional studies, reform of examinations and degrees. Reform in purely scientific education. Reform in the teaching of pedagogy. Abolition of the superior council and the institution of a commission more fitted for consultation and more adapted to the needs of higher education. A special feature of the programme is made up of these three items: "The abolition of compulsory classical education; a scientific basis for general education; special schools for female education."

In an article "Scienza e Pedagogia," Prof. Sergi insists upon the practical character of Pedagogy, ranks it among the applications of sciences,—"a practical application of the principles and norms obtained from anthropological and psychological observations,"—for without the results of anthropology and psychology, it is impossible to establish practical norms for mental and physical education, and ranks pedagogues in three divisions: *I. a.* the university pedagogues, theorists, whose duty it is to know the scientific bases of pedagogy and to give direction to the whole pedagogic movement, from top to bottom; *b.* theorists of the second degree, trained in the school of the first, who are to train the elementary teachers, together with the practical pedagogues who teach letters and science in all schools; *II.* The practical pedagogues of the lower, elementary and infantile schools. Coming down the list the practical element ought to increase, but always in conformity to the scientific basis upon which the whole structure rests.

Prof. A. Mosso, writing of "La ginnastica atletica," says: "Although an army-doctor myself, I have never been convinced that the most muscular men are those who resist best the harass of military life and the causes of infection." After pointing out that the "maestri di ginnastica" are those least able to sustain the wear and tear of marching and military life, Prof. Mosso remarks: "Scientific gymnastics ought not to allow itself to be seduced by the development of muscle obtained in athletic exercises." An-

XUM

other statement in reference to the increase of thoracic circumference, which has been regarded as one of the triumphs of gymnastics, is worthy our attention: "In general it may be said, that of 100 persons who will practice gymnastics for five months, 76 will present an increase in the thoracic perimeter, 16, a less thoracic circumference, and the rest neither better nor worse. These figures suffice to show that the importance of apparatus, such as the parallel bars, fixed bar, trapeze, rings, levers, etc., in developing the muscles of the chest, and facilitating ordinary respiration, has been exaggerated. The increase of thoracic circumference is not in itself alone an effect capable of ameliorating the conditions of the organism. Excluding acute and chronic lung diseases and grave deformities of the vertebral column, no physician has ever found a disease or a state of illness or weakness produced by a deficiency in the quantity of air respired." Prof. Mosso calls attention to "the enormous difference which exists in various persons as to aptitude for gymnastic exercises"—and inequalities in the development of the muscles, which are corrected a little by gymnastics, but hardly is the exercise ended before the muscles tend to resume their primitive strength and proportion, just as if we after having by exercise departed from the limits of the primigenial stamp, return, with inaction, to the individual type, which marks the degradation of inertia." These differences we receive at birh and they are not dependent upon the conditions of social life, and they exist among the animals.

In a brief article "Le Università Minori," Prof. Sergi protests against the proposal of Minister Martini to begin the reform of the Italian universities by abolishing some of them, and declares: "To abolish the universities, is unjust, an unpardonable error, because to take such action is to suppress the centers of culture without compensations or useful substitutions; the just procedure is to transform them into institutions corresponding to the more complex and more varied objects of present societies."

In the first number Prof. Sergi has two other articles on "Cutaneous Sensibility" and on "Art and Literature;" the latter closing with these words: "Art and letters which open the paths of feeling, unite us to man in full humanity, extinguish the violence of wrath and fury, invite to love and sociability, develop the feelings of pity and compassion, render us generous and noble, and at last distract us from real life, often sad and oppressive, to make us enjoy a life fictitious but ideal; when we descend from this ideal we find man less sad, and life less grievous to bear." In the section of reviews is an extended notice of Tracy's "Language of Childhood." The second number contains the following: "L'Educazione umana secondo il concetto d'uomo nella sociologia moderna," P. Vecchia; "Sul Rinnovamento della scuola educativa in Italia," D. Barduzzi; "Il Latino Educativo," G. Sergi. Prof. Vecchia sums up his views regarding the four types of education, which he recognizes thus: "In ancient Oriental education, the end was religion and then divinity; in Greek and Roman education, the end was social intercourse and then the state; in Christian education, the end is the man inseparable from his relations to God; in the education of to-day the end is the citizen-man and therefore the individuo-social organism. The first said: educate the man to divinity and for divinity alone; the socond: educate the man for the state and the state alone; the third: educate the man for man and for divinity; the fourth: educate the man for society. The first and the last of these types represent extremes." The author's ideal is education human, but not atheistical—education so human

in its scope and ways that it feels the duty of leaving to the conscience of the individual the right of lifting him to something more than human.

Prof. Barduzzi's views are represented in this sentence: "The problem of education is, however, a problem not only eminently national, but social; and we Italians under present conditions ought to find our pivot, our base, in that life-giving education according to the laws of nature, which our history, our conditions, our needs, indicate to us and impose upon us. The greatest victory which we can prepare for the new generations is to crown them with the school by impressing indelibly upon them the true moral conscience, which alone can render vigilant and perspicacious the intellectual conscience, for the intellectual proletariat will always be worse than the economic proletariat."

Prof. Sergi's article is devoted to the Latin programme of Minister Bacelli, demanding a thorough revision of the study of Latin and a reform in the teaching profession, if classical culture is to be used for the supremest pedagogical ends. As taught now it is in great part a farce. A. F. CHAMBERLAIN.

Pedagogiska Bibliotheket i Stockholm. By FRIDTJUR BERG. Vor Ungdom, 1887. H. 1 and 2.

Katalog öfver Pedagogiska Biblioteket, i Stockholm. First half, 1891, prepared under the direction of N. G. W. LAGERSTEDT.

The last decade has been especially fruitful for the development of Pedagogy in Sweden, and marks the formation of the Swedish Teachers Association; the publication of the *Svensk Läraretidning* as the organ of this association, and of the journal *Verlandi*; and the foundation of the Pedagogical Library. The latter is by no means the least significant sign of increasing popular interest since it is the work of the Teachers Association of Stockholm and depends largely upon small private contributions. The aim of the directors is to organize a pedagogical library and museum which shall eventually compare favorably with similar other institutions in other countries. It was opened in 1885 with 2,855 volumes, 2,432 Swedish and 423 foreign, not including journals, programs, etc. This number was increased to over 7,000 in the next two years.

The various interests of Pedagogy are represented by the following Swedish journals: *Verdandi*, devoted to the interests of pedagogical realism; *Pedagogisktidskrift*, edited in the interest of classical studies; *Tidskrift för folkundervisningen*, a conservative journal for seminary teachers and school superintendents; *Svensk Läraretidning*, as was said, the organ of the Swedish Teachers Association; *Folkskolaus Vän*, and *Veckoblad för folkundervisning*, both published in the interest of the state church; *Slöjdundervisningsblad från Nääs*, devoted to manual training; and *Folkets tidskrift*, devoted to the interests of the high schools. J. A. BERGSTRÖM.

Åtgärder mot öfveransträngning rid de högre skolorna i Tyskland. V. G. V. LAGERSTEDT. *Verdandi*, 1894. 4 Lf.

In view of the renewed interest in Sweden in the question of overwork in schools, the author reviews some of the plans recently proposed in Germany for regulating the matter, especially the recommendations of the commission of 1892 that there should be less work out of school hours, that the total number of hours of work both in and out of school should be limited to from 6 to 8 hrs. 10 min. per day in the different grades of the gymnasia, and that as a means of bringing this about the instructors shall make out a schedule of work for each grade at the beginning

XUM

of the year. The number of hours of work recommended by the Swedish commission of 1884 for the Swedish higher schools is nearly the same. The actual number of hours required in the Swedish schools is, however, from 10 to 20% greater—the difference increasing from the beginning to the end of the course.

Bollettino Ufficiale del Ministero dell' Istruzione Pubblica. Anno XX. (1893).

The "Bollettino Ufficiale del Ministero dell' Istruzione Pubblica" (Anno XX, 1893, Parte II, N. 48, pp. 4095-4161) contains the report of the Commission on Physical Education, the new Program for the school and other cognate documents. An abstract of these important publications may be not without interest to teachers in American schools and those concerned with the advancement of physical education generally. The commission was composed of F. Todaro, (President), G. Pecile, Gregorio Valle, A. Mosso, Fambri, Flaùti, Ferdinando Abbondati, E. Baumann, Gamba, A. Celli, (Reporter), and Fortunato Ballerini, (Secretary), and the letter of the president transmitting the report bears date of November 18, 1893. Signore Todaro felicitates his colleagues in that its labors "Have established the fact, that, in order to overcome the evils connected with the sedentary nature of scholasticism and intellectual labor, the number of hours devoted to games and gymnastic exercises must be increased; have assigned a just value to gymnastics and have recognized the importance, which, in the physical education of the youth, belongs to games and the training of manual labor, games and training which must alternate with the gymnastic exercises and be graduated according to age, in order that the youth may acquire, with health and harmonic development of body, zeal, sang-froid and resistance to fatigue."

He also emphasizes the fact that the commission could not see its way clear to recommend the introduction into the schools of military exercises, properly so called, such as the use of arms, etc., agreeing with the opinion of high officials of the German army expressed at the meeting of the Central Committee for the advancement of games in Berlin, early in 1893. The reasons given by the commission are: "The ordinary and elementary exercises infuse into the youth the spirit of order, of obedience, and then of discipline; the games develop the spirit of the initiative, answer better for the education of the senses, refine the intelligence, and if there are introduced those requiring great energy, develop that courage, which is now sought to be obtained from exercises with great implements. Besides, the games, gymnastic exercises properly so called, and those worthy of special recommendation,—gymnastic step, running, swimming, leaping, climbing, ladder-exercises, mountain climbing, —favor the development of the lungs, fortify the heart, and regulate its movements, increase the resistance to fatigue, facts all of them of the greatest importance in the physical education of youth. With such a physical education the youth will have acquired the necessary fundamentals for making an excellent soldier." The Commission, however, decided to retain the military instruction in the male normal school at Rome, where are trained the teachers who go to take charge of the popular gymnasiums, for the reason, that, if it should be deemed opportune in such gymnasia to instruct the youth in the use of arms and in target practice, the director may be able to teach these."

The general report of the commission also appears in "Educazione ed Istruzione, Rivista di Pedagogia e Scienze Affini. Anno I., No. I, (15 Gennaio, 1894), pp. 47-60. A. F. CHAMBERLAIN.

In the 18th Report of the Johns Hopkins University Dr. Welch Dean of the medical school, says: "At present in this country no medical school requires for admission knowledge approaching that necessary for entrance into the Freshmen class of a respectable college; many schools demand only the most elementary education, and some require no evidence of any preliminary education whatever. Foreign medical schools differ in this respect, but all in Europe have far more rigid requirements for admission than has any school in this country." He notes also that training in classical and not merely in real schools is required. Formerly Du Bois-Reymond said Greek should by all means be required, but Latin he calls for more conic section and less Greek. Virchow wants more training for sight and touch. At present, he says, we must complain that a majority of our medical students have no accurate knowledge of colors, that they make false statements regarding the form of objects which they see, and that they have no sense for the consistence and character of the surface of bodies, and yet knowledge of this kind is of the greatest importance for the medical man as often diagnosis of the most important condition depend upon it. Dr. Welch thinks this trouble here arises from those anomalous colleges which are half college and half university but which are really neither, and from which students graduate at 22 or 23. The Johns Hopkins medical standard for admission is not only far higher than has ever before been attempted in this country, but is not surpassed by any medical school in the world. Medical science has advanced more in the last quarter of a century than has the practice of medicine. For habits of correct medical thinking no one thing is so essential as that the teacher should be also an investigator and capable of imparting something of the spirit of investigation to the student. The medical school should be a place where medicine is not only taught but studied. It should advance original research and should select for its teachers those who have the training and capacity for research. Dr. Welch would have a sort of German *Examen Physicum* based on anatomy, physiology and physiological chemistry passed by intending students on leaving college. Miss Garrett has demanded, as a condition of her gift, that these high standards for admission shall never be lowered, and that the work required for admission in modern languages, non-medical sciences, be never diminished.

This condition places Miss Garrett on the same high plane as Mr. Martin Green, the administrator of the Ogden fund, the nucleus of the school of science at Chicago, a position first taken by the founder of Clark University, who introduced first among donors in this country a high university standard as a condition of gift.

L'Enseignement Supérieur en France. Par LOUIS LIARD. Paris, 1894, pp. 522.

This second and last volume brings the history of higher education in France down to 1893. As a whole this will doubtless long be the standard work upon the subject, and no man in France is more competent nor more inspired by the highest ideals than the late minister of education who has been a leader in most of the best reforms.

Los Sueldos de los maestros en las principales naciones. Por X. BOLETIN de la Institucion libre de enseñanza (Madrid) xvii, (1893), 235-237.

This is a brief discussion of teachers' salaries in the various countries of Europe. The writer observes that there are in vogue

three principal methods of payment: (1) By the municipal authorities. This is the general practice in Europe, but in some countries, *e. g.*, Prussia, Finland, Norway, the state places in its estimates large sums to increase the stipends of teachers and to pay them, when the municipal provision fails, also for jubilees, pensions, etc. (2) By the State. The most recent example of this is France, where, by the law of July 19, 1889, the payment of the salaries of teachers in the elementary and infant schools was made a charge upon the state. In the Duchy of Anhalt, in Germany, the law reads; "The primary school is not a municipal establishment but a state institution." (3) By certain autonomous or semi-autonomous bodies, such as school-boards and the like — the prevailing custom in England and the United States. Following are the facts disclosed as to the remuneration of the teaching profession:

Belgium. Minimum salary is $231.60; for assistants, $193.00 and a house. There are quinquennial augments of $19.30.

Denmark. In Copenhagen the pay of teachers is, for the first year, $274.06, increasing in four years to $321.26, and at the end of eight years to $381.09. In the smaller towns and in the country the payment is made in the shape of lands and pastures, the income from which must not be below $216.16, with the annual augments.

France. The law of 1889 established five classes of teachers in the primary schools receiving respectively, $193.00, $231.60, $289.50, $347.40 and $386.00, beside house and residence indemnity of from $19.30 to $154.40, according to locality. In Paris this indemnity reaches $386.00. To the teachers having charge of a school of more than two classes $38.60 in addition is paid, and when there are more than four classes $77.20. The directors of the higher primary schools are divided into five classes with salaries of $347.40, $386.00, $424.60, $482.50 and $540.40, besides the residence indemnity.

Germany. In Prussia the minimum is rarely below $193.00, the average in the cities is $347.60, and for rural schools $230.25. In the cities classifications are made according to length of service. Berlin pays up to $781.65 for certain teachers and $940.89 for directors of schools (without including a house), Frankfort $820.25 and $1013.25 respectively. The law of 1873 provides for supplementary remuneration by the state of $21.62 after twelve years and $43.42 after twenty-five years. In some states of Germany, Würtemburg, for example, masters in rural schools continue to be paid in lands, pastures, grants, etc., though the system is gradually changing. The general minimum is $164.05 for masters and $125.45 for assistants. In Lübeck, the directors of the complementary primary schools are paid up to $868.50, those of the superior primary schools from $1,013.25 to $1,302.75.

Greece. The teachers of the first class receive per month $27.02, those of the second class $19.30, and those of the third $15.44. The directors of elementary schools in the large towns receive $34.74 per month.

Holland. The minimum is $283.71 for directors, $243.18 for principal teachers, and $162.12 for subordinate teachers.

Italy. The teachers are divided in urban and rural classes, and each of these has three divisions. The scale of payment is:

	First class.	Second class.	Third class.
Urban schools (superior),	$231.60	$193.00	$173.71
Urban schools (lower),	171.71	154.40	135.10
Rural schools (superior),	154.40	135.10	115.80
Rural schools (lower),	125.45	106.15	96.50

Norway. The minimum is $162.12 with house and fire. In the

rural schools the teachers receive a subvention of $0.52 per week from the state and the pay must be at least $2.12 per week. There are also quinquennial augments.

Portugal. In the elementary rural schools the salary minimum is $108.08, in the towns $129.31, in the cities $162.12.

Russia. In the rural schools the minimum is from $92.64 to $293.36, besides house and fire. In the urban schools the salary is $416.88. The directors receive from $77.20 to $115.80 more. In the schools of the cities in Finland the state is responsible for one-fourth of the expenses. The salaries range from $250.90 to $347.40. Here, too, the rural teachers are paid in land, pastures, wood, etc., with a salary of $154.40. After ten years of service, they receive an augment of twenty per cent., and then quinquennial augments of ten per cent. till $231.60 is reached.

Sweden. The minimum for a teacher in an urban or rural elementary school is $135.10 with house, fire, garden and feed for a cow.

Switzerland. The salaries vary in each canton, being lowest in Uri. The educational law fixes no minimum, limiting itself to the statement that the salary should be equitable. The average salary of a teacher is $96.50. In Valais the minimum is $9.65 per month, in Bâle $193.00 per annum, with a maximum of $810.60.

A. F. CHAMBERLAIN.

Volksbildung and Jugenderziehung. Von ERNST FLÖSSEL. Leipzig, 1891, pp. 235.

The deterioration in morals among the young of the present day, especially those of the working classes, is an acknowledged evil. The application of new inventions to industry has brought about enormous changes in social conditions. Progress in the material wealth of the few has been at the cost of moral loss to the many. Business conducted on its present colossal scale has reduced personal contact between employer and employed to a minimum, while the admission of women and children to work in the factories has tended to destroy family life. These and many similar causes have removed the natural checks upon childhood and youth. A remedy to the consequent ills to our entire civilization is to be found in a more thorough and prolonged education, not simply that of the schools, but such as the coöperation of family, church, state, employers and employed alone can secure. To this end intelligent organization is necessary: organization of work, by which graded instruction may be provided for beginners in the various branches of industry; organization of places for the continuance of general education and especially for moral and religious training; organization of recreation to ensure that it shall be both innocent and beneficial; organization of clubs for the young, of benevolent institutions, and finally of a system of travel, which shall enable the young apprentice to see the world and at the same time pursue his chosen calling in various places. The leaders in this reformation must be the employers themselves, but they will need the hearty coöperation of every class in the community.

C. H. S.

Talks on Pedagogics. An outline of the Theory of Concentration. By FRANCES W. PARKER, principal of the Cook County Normal school, Chicago. N. Y., Kellogs, 1894, pp. 491.

This book contains, no doubt, Col. Parker's chief literary contribution to pedagogy. The reader will note in the first chapter on the child, the burning heart of a real lover of childhood, who would devote all that he has and is to its welfare. The child is the

XUM

centre of all as his comprehensive diagram frontispiece shows. Myth and nature are the two basal lines of normal development. Col. Parker is not a great reader, and there may have been more logical thinkers, but the man and his book are full of freshness, light and love. We regret that space forbids analysis.

William Henry Widgery, schoolmaster. A description and critical account of his life work and character. By WM. K. HILL, London, 1894, pp. 288.

This is a tale of lofty ideals, high promise, and sad and sudden interruption by death. Mr. Widgery, 1856-1891, was chiefly interested in language-study and teaching, and wrote many articles and addresses. He was assistant master at University College school, secretary of the Education society and librarian of the teacher's Guild.

The Principles and Practice of History and Class Management. By JOSEPH LANDON, F. G. S. N. Y., 1894, pp. 462.

This covers much the same grounds as Fitch's well-known lectures. It is, however, fuller, less discursive, and perhaps more practical. The author has taught teachers for twenty-five years and puts down what he knows in a very effective way. He has no new-fangled ideas about psychology and never heard of child study, and knows little of foreign systems, but has good hard pedagogical common sense.

According to Season. By MRS. WILLIAM STARR DANA. N. Y., 1894, pp. 159.

This charming little book is a series of informal talks about flowers in the order of their appearance in the woods and fields. In the eight chapterlets between 800 and 900 flowers and plants are named, the vulgar name being always used.

How to Know the Wild Flowers. By MRS. WILLIAM STARR DANA. N. Y., 1894, pp. 298.

One hundred and four plates by Marion Satterles and at least as many more described make a very convenient and interesting handbook for summer outing and for amateur work in botany. Such a text book should almost mark an epoch in the teaching of botany in lower schools.

Our Common Birds and How to Know Them. By JOHN B. GRANT. N. Y., 1894, pp. 224.

This tasteful little volume contains sixty-four full page plates photographed from stuffed and mounted specimens, with a page or more devoted to description of each. Fifty pages are introductory on classification. The book should be in every boy's library.

Sea Side and Way Side. Four Volumes of Nature Readers. By JULIA MCWAIN WRIGHT. Boston, 1893.

In all we have nearly 800 pages descriptive of animals of all degrees with illustrations. The accounts are given in a sprightly manner and are sure to interest children in natural history.

The Winners in Life's Race. By ARABELLA B. BUCKLEY. N. Y., 1891, pp. 367.

Mrs. Buckley has rendered very great service to children by her admirable popularizations. Perhaps nothing on the whole is better for children of ten to twelve years than these accounts of vertebrates.

Little Folks in Feathers and Fur, and Others in Neither. By OLIVE THORN MILLER. N. Y., 1893, pp. 357.

Description in popular and lively style of about 100 animals, each of which is shown in a cut.

Aspects of the Earth. A popular account of some familiar geological phenomena. By N. S. SHALER. N. Y., 1890, pp. 344.

This is a collection of popular and copiously illustrated essays, most of which are reprinted from Scribner's Magazine. It is an admirable volume for an amateur to take into the country for vacation reading.

Astronomy with an Opera Glass. By GARRETT P. SERVISS. N. Y., 1892, pp. 158, 6th Ed.

This popular introduction to astronomy, with its many apt cuts, has proved entirely worthy the praise bestowed on it.

Nature-Myths and Stories for Little Children. By FLORA I. COOKE. Chicago, pp. 92.

These tales, by one of Col. Parker's best teachers, are of flowers, insects, birds, stones, clouds, trees, animals, sun, and many other topics. They are told in a way to fascinate young children, and are mostly of human souls in animal or vegetable bodies.

Story of the German Iliad. By MARY E. BURT. N. Y., 1892, pp. 119.

This is a digest of the *Niebelungen Lied*, intended as a school reader for the sixth and seventh grades. It contains a few cheap cuts.

Stories of Norse Gods and Heroes. By AMOS KLINGENSMITH. Chicago, 1894, pp. 98.

Twenty tales, well told, of Norse heroes and demi-gods, with a vocabulary and a few cuts.

Gods and Heroes, or the Kingdom of Jupiter. By R. E. FRANCILLON. Boston, 1894, pp. 292.

One of the most fascinating books on Greek mythology we have ever seen.

Myths of Greece and Rome. Narrated with special reference to literature and art. By H. A. GUERBER. N. Y., 1893, pp. 478.

Good but less interestingly told and far less truthfully illustrated than the above.

Children's Singing Games. Collected and edited by ALICE B. GOMME. London, 1894.

Eight of the oldest, best and most widely known folk-songs are given with music and elaborate and very pleasing marginal illustrations. We hope the second larger series promised next Christmas will not be wanting.

Finger-plays for Nursery and Kindergarten. By E. POULSSON. Boston, 1893.

Eighteen finger-plays are given on small quarto pages with music and tasteful marginal illustrations.

XUM

L'Education des Classes Moyenne et Dirigeantes. Par MAX LECLERE. Paris, 1894, pp. 368.

This work with an introductory by M. Emile Boutmy is the result of a competitive prize mission to England by the author who concludes that dispite the want of correspondence between education and life in England, the English youth has greater physical and moral vigor and has been less distracted by many different demands upon his intelligence. It is a substantial and judicious book.

CELLI PROF. ANGELO. La Scuola e l'Igiene sociale (Dal *Giornale di Medicina Pubblica*). Napoli, 1893, pp. 43, 8vo.

The author pleads for the better endowment of the universities in science and the making hygiene one of the primary subjects of instruction in all schools—for scholastic hygiene is social hygiene: "From the kindergarten up, from the normal school to that of the masters, from the elementary, through the secondary, and at last to the universities of hygiene, all make a better life to give afterwards to the nation health and strength, and hence prosperity and riches.

It is worthy of note that into the municipal schools of Rome, there have been introduced the experiments of the *Carta Biografica* of Sergi, and a *chart of the most important symptoms of infective and contagious diseases* compiled by Prof. Zevi and Dr. Baldini, by which the teachers will be able to lessen the number of hours in which a child suffering from such diseases remains in contact with his fellow pupils. A. F. CHAMBERLAIN.

L'enseignement supérieur et l'enseignement technique en France. Par PAUL MELON, 1893, pp. 342.

This volume is devoted to universities, faculties, special and technical schools only, and describes the work individually and in detail. Since its first editions three years ago it has been the best book of reference upon its subject.

The Citizen-Reader. BY H. O. ARNOLD FORSTER. London, 1894, pp. 216.

This book now in its 230th thousand, merits all its popularity. It is a copiously illustrated treatise on British patriotism, constitution and government, with an individual ethical background.

Introduction to the study of political economy. BY LUIGI COSSA. Tr. by Louis Dyer, London, 1893, pp. 587.

The method of both the theoretical and historical part of this valuable work is the same. It is to digest the works of leading authors, topic by topic, man by man, book by book, so that the work is mosaiced together of concise digests or descriptions of nearly all the good works in the field, since it begun to be systematically cultivated. Nowhere more than in a perusal of this book is it apparent how sharp a reversal of most current standpoints is represented by the very valuable work of Benjamin Kidd.

Essays in historical chemistry. BY T. E. THORPE. London, 1894, pp. 381.

This well known professor of South Kensington has from time to time during the last twenty years, lectured on the great creators of chemistry from Boyle and Priestly down to Mendeleeff, and here these lectures, thirteen in number, are published. They will interest not only chemists but laymen, and are lucid and interesting throughout.

XUM

Ferroni, Ferruccio. Fantasie scolastiche con Prefazione di Renato Fucini. TORINO-ROMA-MILANO-FIRENZE-NAPOLI, 1893, viii, pp. 279, 8vo.

This little volume, written in lively style consists of three parts: Text-Books (Libri di Testo), pp. 1-46; Among the Books (Fra un libro e l'altro), pp. 47-117; Odds and Ends (Ritagli e Scampoli), pp. 119-263. Signor Ferroni esteems but little the average text-book, especially reading-book—he is inclined to think that the best thing would be to burn all of them big and little and start afresh. He is particularly sarcastic over the *omnibus*-books, "text-books containing all that is prescribed in the curriculum." According to the policy of Minister Villari, in 1891, the examination and selection of text-books devolved upon the sixty-nine provincial scholastic councils, each consisting of twelve members—a total of 828! Ferroni gives (pp. 43-45) an outline of a proposed law respecting text-books, which he thinks would meet the case. He would have two boards or committees for the examination and selection of text-books, one provincial, the other central (at Rome, under the Minister). The former should consist of a professor of literature, a professor of pedagogy, or of philosophy, a male and a female teacher of the elementary schools, the school-inspector of the first district, the provincial "Provveditore," (president), the two last ex-officio members, the others appointed triennially by the scholastic councils — persons intending to submit text-books for approval being ineligible for membership; the members to receive an annual salary. The central commission should be composed of six or seven members, appointed quinquennially by the Minister from amongst the men of learning, those versed in scholastic affairs, and men of standing in the community. The provincial board should examine carefully every book sent to it, and transmit to the central board copies of such as it deems worthy of a second examination; these the latter look over and the titles which meet with their approval, are sent to the Minister not later than the end of July in each year, and by him, with the approval of the superior council, are embodied in a catalogue issued not later than the last of August in each year. It should be prohibited to teachers to use books not comprised in this official catalogue without the authorization of the authorities.

Part second is really a collection of reviews of books—the author taking as his motto the saying, "Making a book is less than nothing, if it does not *re*make the people." Among the books considered are Collodi's *Grammatica di Giannettino*, a grammar for elementary schools, which Ferroni terms a "jewel"; Professor Alfredo Della Pura's *Letture prosastiche moderne*, a new and indispensable contribution to the programme of the higher elementary schools; Corti and Cavazutti's *Il fanciulletto italiano alla scuola*, of which an Italian educational weekly says, "worthy to have a place in every school; recommends itself," but which the reviewer thinks is a text-book which had no *raison d'être;* G. B. Cipani's five books *Sandrino nelle scuole elementari*, with which "stuff" Ferroni declares it impossible to educate the heart; Giovanna Maria Pignocco's *La vita nei campi (Libriccino completo di lettura, d'aritmetica, di storia, ecc.)*, some of the contents of which are termed in the scathing review "sweepings"—a specimen *mu, mu, mu* poem addressed to the cow, indicates the calibre of the work, which Ferronio deems little apt to instil a true idea and love of country life; Prof. F. Bertolino's (of the University of Bologna) *Compendio di storia per le Classi Elementari*, an excellent history-primer for elementary schools; Prof. A. Barbensi's (of the Royal Normal

XUM

School of Pistoia), *Studi psicologi sulla donna*, a pamphlet of a few pages by a specialist in the matter of female education—his motto is "much study in school-hours, almost complete freedom at home ;" Signora Berta Barbensi's *Epistolario famigliare ad uso delle giovinette*, a model of letter-writing.

A. F. CHAMBERLAIN.

Das Interesse. IN K. WARREMANN.

The object of education is to awaken and stimulate that mental process which shall lead to the development of character. The teacher can measure the degree of his success by the amount of interest his instructions arouse in the child. Interest has been defined as continuous attention which becomes absorbed in its object, and attention is that mental activity which lifts the conception of the object perceived above the dead level of mere perception.

Two classes of objects awaken in us this interest, first, those with which from association, study, etc., we are familiar, and second, those to which our own natural bent leads us.

Interest tries to bring these two classes of objects into a clear form of representation.

Interest is marked by longing to know more, pleasure and ease for the act of acquisition.

In view of the intimate relations between feeling and willing, too great stress in education can not be laid upon the arousing of deep interest in all those subjects where right action is concerned. Let the teacher show them their fellow-men, their country in their true relations of dependance, claim and obligation, and the child will learn to gladly strive to realize the ideal set before him in his relations to them.

Iles. A Class in Geometry ; Lessons in Observation and Experiment. KELLOGG & Co. New York and Chicago, 1894, pp. 46.

The instinctive dislike for geometry is due to the abstract method of presentation ; the study of geometry can begin with observation. A house-lot and two fields teach the relations between area and boundary in squares and rectangles. Smashing coal makes apparent the increase of surface by division of a solid body ; cubical blocks teach the law it follows. The relations of content among a cube, a rectangular wedge and an equilateral pyramid of the same base and height are brought out by weighing and by immersion in water.

The author should have reversed the title, as the book is preeminently for development of the powers of observation by means of a multitude of facts in geometry, physics, chemistry, mechanics, industry, etc., that are brought to the notice of the boys. So much sound psychology and sound pedagogy are seldom found in so small a compass.

Yale University. E. W. SCRIPTURE.

Psychologie des grands calculateurs et joueurs d'echecs. PAR ALFRED BINET. Paris, 1894, pp. 364.

The first and largest part of this work is little more than an amplification of Dr. Scripture's study of arithmetical prodigies, made with the aid of Professor de Perott of Clark University and published in the *American Journal of Psychology*. The second part on great chess-players is no less interesting.

The Wee Ones of Japan. By MAE ST. JOHN BRAMHALL. *Illustrations* by C. D. WELDON. New York, Harper & Brothers, 1894, pp. 137, sm. 8vo.

This interesting and valuable little book is the result of two years of observation and study that we, two zealots, have devoted to the Wee Ones of Japan. It is, perhaps, the best work written about that "Paradise of Babies"—the Land of the Rising Sun. The *real* Japanese child is the only one treated, "all mention of the *made-over* Japanese child and the institutions that have reconstructed him being omitted." *Con amore* we have sketched for us the environment and surroundings, the companions, and the routine of life of the little brown people, their nurture and their education. Of play we read: "Play — the one thing a child loves best — is in Japan, with its unique environments, no small agency in bringing budding traits into bloom, bracing inclining boughs and strengthening weak twigs. In a long list of popular Japanese games it is all but impossible to find one that does not teach the child something which should be learned" (p. 51). Playing-cards, toy bazaars, dolls, theatre-outings, excursions to the beautiful temples, the flower-feasts, the feast of dolls, the feast of the New Year, and other entertainments and attractions galore give us a *couleur de rose* conception of Japanese infancy and childhood. Very interesting are the long extracts given from the *Onna Daigaku*, "The Greater Learning for Women," which deals with the education of girls, and indicates the marked path in which all the sex must tread. Here it is stated: "It is the chief duty of a girl living in the parental house to practice filial piety towards her father and mother. But after marriage her chief duty is to honor her father-in-law and her mother-in-law—to honor them beyond her own father and mother, to love and reverence them with all ardor, and to tend them with all practice of filial piety." The injunction in the Hebrew Bible that a man should leave his father and mother and cleave to his wife has, naturally enough, aroused much prejudice against Christianity in Japan.

One important fact brought out by the author is that real affection for children does not differ by reason of sex, although, for a variety of reasons, the male child may be more welcome. Quaint and impressive is the story of the filial piety of Roraishi, who, "though seventy years old, used to dress in baby's clothes and sprawl about upon the floor. His object was piously to delude his parents, who were really over ninety years of age, into the idea that they could not be so very old, after all, seeing that they still had such a puerile son." As a contribution to paidethnography the book deserves a place in every library worthy the name.

A. F. CHAMBERLAIN.

Dolls of the Tusayan Indians. By J. WALTER FEWKES. Reprinted from *Intern. Archiv f. Ethnographie* (Leiden), VII. Bd. (1894). Leiden, 1894, pp. 29, with plates v-xi, 4to.

This is an admirable and richly illustrated account of the dolls, *tihus*, and fetishes of the Tusayan or Tanoan Indians of New Mexico, based upon original observation and research. Attention is called to the connection between dolls and religion, psychological evidence of which is present in the persistent folk-etymolgy which connects *doll* and *idol*. Dr. Fewkes says: "These images are commonly mentioned by American visitors to the Tusayan pueblos as idols, but there is abundant evidence to show that they are at present used simply as children's play things which are made for that purpose and given to the girls with that thought in mind."

And again: "It is extremely difficult in the study of the religions of primitive peoples to draw a sharp line of demarcation between pure idols, which are worshipped and those figures of the same which have a purely secular character. It can hardly be said that these idols are worshipped at the present day. Still, it by no means follows that they may not be copies of images which have been worshipped, although they now have cause to have a strictly secular use." Among some peoples, the dolls, images of deities of the past, may have been used to impart the fundamentals of theology and the play-house of the children may have been a sort of religious kindergarten. A. F. CHAMBERLAIN.

Common Sense about Women. T. W. HIGGINSON. Boston, 1892, pp. 403.

This is a collection of 105 brief articles, mostly from the Woman's Journal. Woman is not a mere physical organization for child bearing. This is secondary and subordinate, and maternity is not first. Man has had the best start, but woman is fast overtaking him. Her deductive way acts on the cold, hard nature of man, and has thus done much for the progress of knowledge, and only feeble men are jealous of women's rights. Woman should no more merge herself in her children than should the husband. Washington was made childless that the country might call him Father. She must no more be walled up as the hornbill walls up his mate while she is setting. She has something nobler to do than to administer visiting cards, to be beautiful as an angel, and as silly as a goose, to know nothing but believe everything, and to call sweetly from her inner private room, "Husband, dear, how much is two and two?" She must make the manners that make and unmake laws. Her education must be of the heart and not mere mental horticulture. The arguments against female suffrage—I have all the rights I want! Women would vote with priests! It would cause family discord! Be unwomanly! Women rule too much now! There are to many voters already! — are treated in a sprightly way. Women should put more perseverance into their callings and should be able to support themselves after marriage. Men need more heart and women more head, so there should be co-education before co-partnership in marriage.

The Evolution of Woman. An inquiry into the dogma of her inferiority to man. By ELIZA BURT GAMBLE. G. P. Putnam's Sons, 1894, pp. 356.

Current ideas must be reversed. The female represents an higher stage of development than the male in all orders of life. Males excel only in organs of locomotion and prehension and ornaments, such as colors, wattles, beard, power to perform love antics. These products of secondary sexual selections divert from the true line of development, and are produced at cost of deterioration. Man is most prone to organic and inflammatory diseases; his life is shortest. Abundant nutrition causes females, while boy births rise in number with the cost of food. Among many lower forms of life males are dispensed with and self fertilization of the female occurs, if the conditions of life grow hard. In early times in all lands women were the superior sex. Matriarchates made descent of name and property through the mother, who lived with her own kin in geno-plurality, sept, or clan, even after she was subjected to her husband. Wife capture and exogamy and the residence of the wife in the husband's home cause a decline of woman's estate, and she became the slave of man's passion, which is now responsible

for most of her faults and even diseases. Even the Greek heterai taught virtue, and held that the best women were too noble to enter wed-lock as then existing, and rendered so vast a service to civilization that men in revenge blackened their character. In old days Europe, Asia, Lybia were named from women. She once restrained man's lust, and held him in the wooing stage when his best deeds and most rapid growth occur. Now she has sunk to so low an estate that all she has and is depends on pleasing men. The book is vigorous, original, scholarly and interesting.

Der Weiberschädel. E. REBENTISCH. *Morphologische Arbeiten.* Zweiter Band, Jena, 1893, pp. 67.

This is a careful and exhaustive study of the characteristic marks of the female skull, with the history of the subject and review of the literature. The study was made upon 169 skulls whose sex was known, from the anthropological museum at Strasburg. As a preliminary test, the marks being concealed, the sex was guessed after a careful examination of each skull. The result of the diagnosis showed a correct determination of the sex in 153 out of the 169 cases.

The author concludes that there are no absolute sex characteristics to be found in the skull, but sex may be determined by general preponderance of female marks. The most definite marks are the smaller size of the skull and lower jaw, the less development of the glabella and the mastoid process, the outer occipital protuberance, the perpendicular aspect of the forehead and the sharper angle that it makes with the crown, the narrow margins of the orbit and of the upper jaw, the smallness of the teeth, and the contraction of the base as compared with the crown of the skull.

G. T. W. PATRICK.

Zur Psychologie der Frauen. G. SIMMEL. *Zeitschrift für Völkerpsychologie und Sprachwissenschaft.* 20 sten Band, 1890, pp. 46.

Physically woman is less modified than man. In all animal species the female is more like the young. Women differ less from one another than men. This fundamental physical difference may help us to understand the psychical difference. The fundamental psychical characteristic of woman is a less differentiation among her concept. These have greater mobility and easier coalescence. In a given time a larger number of concepts may be present to woman's consciousness. The result is less logical exactness, with greater intuition of results and conclusions. The oft repeated charge of a lack of logical ability in woman is not, however, strictly true. It is rather in the material of the premises that her weakness lies. From given premises it is doubtful whether women are inferior to men in drawing legitimate conclusions. It is said women do not discriminate between truth and falsehood, but the difference lies rather in their conception of the end to be served by truth. Social conditions make dissimulation and simulation more necessary for women. This same want of distinctness and individuality in concepts, which characterizes the mind of woman, explains other feminine peculiarities. For instance, a woman absorbs herself in a novel and identifies herself with the characters. She makes, for the same reason, a poor critic. It accounts, too, for her tendency to exaggerate, which also belongs to primitive folk in general. Her mental life tends constantly to a unity; it arranges itself about a single point, a single idea, object, or man She apperceives everything from one standpoint. She lacks ob

jectivity. She has less power of abstraction. Her concepts are concrete and cluster about concrete things, — patriotism, for instance, about the person of the ruler, religion about the personal savior.

Woman's interest in art is greater than man's, because art represents ideals in material form. Woman has greater power of reproduction than of production. She clings to custom rather than to right, but custom is the germ of morality and here, as elsewhere, woman displays her undeveloped, as it were, her aboriginal character. Man loves freedom, woman loves custom. Her weakness, which is best protected by custom, is one ground for this. Her devotion to custom appears also in matrimony as a blind and instinctive devotion as soon as she decides to accept a certain man. This is immediate, not gradual, and is the result of countless generations of inherited habit. It accounts for the idea that marriages are made in heaven. Some of woman's limitations are also the result of her devotion to custom, shown often by the wonderful attainments of the women who overstep custom. Woman holds to a rule without exceptions. She makes thus a partial judge. She condemns equally Gretchen and Marguerite Gautier, Stella and Messalina.

Women are unable to enter the broadest circle of high ideals, either in science, politics, or morals, because they cannot understand the independent higher abstractions necessary for ideals. We often call women priestesses of the ideal, because they possess the same innocence and subjective intuition that is found in children. We thus forget that the beginning and the end of specialization and differentiation have the same form. The estimation of women as superior arises from the psychological tendency to overestimate that which we ourselves do not possess. The simplicity and completeness of women enable them to accommodate themselves more easily to circumstances than men, to changes for better or worse. Incomplete relations better suit the quality of theoretic reason that the woman possesses, for example, the first weeks of marriage are happy for the woman, because they correspond to the incompleteness of the totality of her mental states, while as a transition state, they make the man very uncomfortable.

This article is a mixture of Herbartian psychology and wide generalities, and is of little scientific interest.

G. T. W. PATRICK.

La Donna Delinquente. C. LOMBROSO. Turin, 1893.

Lombroso devotes the first 200 pages of his book to the characteristics of the normal woman. We review only this part here. In a short introduction he refers to male and female differences among the lower animals. In the case of insects and fishes and generally throughout the lower orders, the females are strikingly superior to the males in size, strength and number. From birds upwards in the animal scale the superiority of the male is almost constant. Among mammals there is no exception to the latter rule. This change of relations is explained as follows: The female owing to her greater part in the work of reproduction is originally the stronger and superior sex, but the male, owing to his greater variability, his greater activity, his constant warfare, and the operation of sexual selection, develops more rapidly, overtakes and finally surpasses the female.

Normal woman is described first from the standpoint of anatomy and biology. In weight and height she is, among all races, inferior

to man. She reaches her maturity at an earlier age, also a mark of inferiority. The hands and feet are smaller, the trunk longer in proportion to the extremities, as in the case of children and apes. The heart is in proportion to her size smaller and the lungs of less capacity than in man. The blood also is inferior, showing a less number of red corpuscles and less specific gravity. The jaw is considerably smaller relatively as well as absolutely. The cranial capacity is both relatively and absolutely smaller. The eyebrows are less developed, the orbits smaller, the cephalo-orbital index is larger, the forehead vertical, the face in proportion to the skull smaller, lower and narrower. The vertical forehead and low face, the roundness of the lower jaw, and the absence of beard are all purely infantile marks. The weight of the brain is less, relatively and absolutely. The difference is greater in respect to the grey substance than the white. Degeneration marks are more rare among women. The persistence of the woman in the child stage is shown also functionally. The heart beat is from six to seven per minute faster than in man. In muscular force her inferiority is very marked. Quetelet found with a dynamometer that the relation was now 53 — 57:100. She attains her full strength at a much earlier age. At the age of fifteen to sixteen the man attains the average strength of the woman, but does not reach his own maximum of strength till twenty-five to thirty. Left handedness and ambidexterity are much more common among women than men. With the exception of certain diseases to which by virtue of her sex she is more liable, the woman is less subject to disease than man, and recovers more rapidly. She endures wounds and surgical operations more easily. Her hair becomes grey later and is retained longer.

Woman retains the integrity of her senses and memory longer than man. Her sight and hearing are less impaired by age. Contrary to the general opinion, woman's sensibility is less than that of man. This is true not only in respect to general sensibility and sensibility to pain, but also in the special senses. Her sexual sensibility is much less. Her irritability is greater. She gives expression to pain more readily. Pity, sympathy and charity are very much more developed in woman than in man. These are natural to woman but have become much more marked under the influence of Christianity. They spring partly from her instincts of maternity, partly from her own weakness. All the great movements in charity, in the care of the poor and the sick, have been begun and maintained by women. Woman is, however, more cruel than man, particularly to her own sex. Her cruelty is the logical result of her weakness. Man kills, woman tortures. Her weakness and the fact of sexual selection account for her indisposition to the use of alcohol.

As regards her temperament woman is changeable. She is unstable equilibrium. She is less passionate than man. A widow is more easily consoled than a widower. Her slave like devotion to her husband shows her inferiority to him. Her feelings are more motherly than wifely. Love in woman is essentially nothing but a secondary characteristic of motherhood, and the feelings which draw the woman to the man arise not from sexual impulse but from hereditary instincts of subjection and sacrifice.

In respect to moral feeling woman is inferior to man. This is shown first by her instinctive disposition to dissimulate. The latter, however, is the result of her weakness and of unnatural social restrictions which make dissimulation inevitable. Her lack of judgment and logical ability, also, does not allow her to discrim-

XUM

inate so well between truth and falsehood. A woman is a grown-up child and it is this same lack of discrimination that is the cause of the well known tendency to falsehood in children. Open vice, alcoholism, etc., are much less common among women than men. Woman's general moral perception, however, is inferior, — the inevitable result of her weakness and subjection. She shows envy, jealousy, anger, revenge, lack of honor and rectitude. To the latter, however, exception is made in the matter of virtue and fidelity to her husband.

The inferiority of woman's intelligence is most strikingly shown in her want of creative ability. Genius among women is rare and, where found, not of a high order. This is not accounted for by conditions of education. She displays monotony and absence of originality. In executive matters she is industrious, but not expert. This is due to absence of differentiation in brain function. As compared with man, she shows less depth of thought, imagination and keen perception. She is inferior in manual dexterity, but excels where patience is required, for instance, in weaving. Her patience explains also in part her success in elementary instruction. Women are more alike than men. Woman lacks individuality. She is conservative and loves that which is old and tried. The language of women is old fashioned as is also their method of dress and ornamentation. Superstition, belief in signs and wonders, and the traditions concerning popular remedies owe their continuance almost wholly to women. But her assimilative powers are very great, being in indirect proportion to her creative ability. Girls are often the most apt pupils, even in Latin, Greek, mathematics and philosophy. Woman possesses intuition, as an automatic form of intelligence, in a high degree. Her adaptability is also great. An English proverb says: It takes nine generations to make a gentleman — only four or five to make a lady. Woman excels in craft and cunning. She lacks logical feeling and accepts hearsay for fact. Her perceptions are less clear and definite and much influenced by her prejudices. She is less capable of abstraction than man. Her strength lies in analysis. She is deficient in the highest mental qualities, viz.: in synthesis and abstraction. She is more fluent in speech than man, particularly in its lower forms, *e. g.*, talkativeness. Girls learn to speak earlier than boys, and women continue talkative to an older age than men. Women are inferior to men in writing, except in the case of letter writing, and their letters are very personal. Greater participation in social life will gradually increase the intelligence of women, as it has already done in England and America, where, for instance, the greater part of artistic and literary journalism is in the hands of women.

Lombroso's characterization of the mind of the normal woman are certainly interesting and often very apt, but they exhibit a certain sweeping, off-hand and ready-made character that ill adapts them to serve as a ground work for a scientific psychology of woman.

G. T. W. PATRICK.

NOTES.

At the Chicago meeting of the National Educational Association in July 1893, it will be remembered that no section attracted greater interest or attendance than that devoted to the study of children when three or four sessions were crowded with interesting papers. At Asbury Park, a yet better program was prepared but owing to bad local management the meeting was appointed in an inaccessible dining hall, which at the appointed hour contained but 17 chairs. After another futile effort to find a room a rally of the "remnant," about 350 in number, was made at a church across town late in the P. M. The next day the meeting of this section was appointed in different papers and hand bills at three different places at once. Despite this confusion 12 very interesting papers were presented to goodly audiences which it is hoped will appear in full in the proceedings of the association as they are mostly results of special researches. Four of these, from Clark University, are printed in this number of the PEDAGOGICAL SEMINARY. With but four dissenting votes,and largely by the efforts of Commissioner Harris and President Lane, a new section for child study was created, of which Prof. W. L. Bryan was made president to succeed Dr. G. Stanley Hall. Prof. Bryan's organization and conduct of the work during the year and his programme at the next summer meeting will be watched with interest by the large and growing circle of friends and active participants of the movement. If wisely conducted it should in time not only be the philosophic but also the scientific heart of the National Association, attracting the best minds in the association, and bringing to it many of the best scientific and other leaders of thought who have never hitherto taken interest in the work. The philosophical side of education in these meetings has been greatly stimulated by Herbartism, but greatly needs much further extension and deepening.

We can make room in our too crowded pages for only brief abstracts of some of the reports, as follows.

From Boston Miss S. E. Wiltse reported the beginning of child study work in this country in 1880, published in Dr. G. S. Hall's well known paper "the contents of children's minds," her own study of *children's collections*, a joint study of *children's lies*, her tests of hearing with Dr. Clarence Blake, and later of visualization with the aid of Frank O. Carpenter, her studies of sound-blindness and later, (in press) of children's autobiographies. The first investigations were made at the expense of Mrs. Quincy A. Shaw, who is thus in a sense the patroness of the work in Boston. In Boston too the classic investigations of Prof. H. P. Bowditch on the height and weight of American school children were made. No organization has yet been effected in Boston.

From Hartford, Conn., Miss Hattie E. Hunt reported that semi-monthly teachers meetings had been held throughout most of the school year for discussion. A schedule was drawn up for each

XUM

pupil noting the results of ear tests (watch), eye tests, made gratis by an oculist, with other mental, moral and physical tests, which gave teachers much better acquaintance with individual pupils. It was sought to interest parents by public lectures by Dr. G. S. Hall, on the general topic, and by Dr. Stone, on children's sense of justice. It was a good beginning with immediate utility for its end. The work is to be continued and broadened the present year.

Miss Annie Howes Barus, for the committee on the study of child development in the Association of Collegiate Alumnæ, reported. Their schedules were at first limited to babyhood, because Preyer's book was the best, and mothers of very young children while shut off from other intellectual pursuits might be drawn to this. Members were advised to read Preyer. Miss Shinn, of California, had meanwhile become absorbed in observing a baby and later found her notes the fullest in the country. After advice with many professors and the general association, four schedules of topics were adopted. *I.* For babies under three months, including grasping and color. *II.* Muscle development from raising the hand up to walking. *III.* A few brief points on emotions. *IV.* Memory, imagination, signs, speech. The novelty and ease of note taking easily create enthusiasm but requires an unusual sacrifice of time and persistance. Section work was tried in Washington by inviting a class of intelligent mothers. A dozen mothers came and two undertook systematic work. In Boston the section contains 30 mothers 10 of whom will do work. In California a section of 20 in 1892, discovered a few workers. The notes have been remarkably cool, fair and without maternal bias. College trained mothers have peculiar qualifications for this work. Miss Shinn thinks there is occasional danger of fussy precision and over-cautiousness. Since 1893 Prof. Brown, of the University of California, has led the work of the section as a graduate seminary, with five active workers. Miss Shinn's book is used as a text-book in several normal schools. Spontaneous drawings, and the time and member sense are now under observation. Far more than the direct results has been the training of the observers. The minds of the five observers have been clarified, generalizations foreshadowed till the five observers are no doubt among the best in the country.

Miss Jenny B. Merrill, of New York city, reported on her own study of plays and read several suggestive letters. Dr. Shimer, of the New York School of Pedagogy, reported that his seminary had worked during the year upon child study. The object was to develop in the teacher the power to tell all about the child's inner life by drawings, models, words and things made. Mental measurements along lines shown in Dr. Smith's "*Mind Evaluation*," children's flow of association, defects. Dr. Shimer took 300 measurements. Mr. Kinnaman and Dr. Shaw and others have done valuable work. Dr. P. E. Groszemann, of the Workingmen's School, says: Each teacher reports on individual children, and the school physician, Dr. Torek, examines each child and each suspicious cause of absence. A ladies' committee who visits homes supplements this work, as does the monthly parents' meetings. The country is often prescribed for weakly children, and all is based on a study of individual cases. Principal C. E. Meleny writes that weight and height records, also height, posture, gait and effects of gymnastics are noted, and special directions of walking, standing and movements are noted, as are nutrition, fatigue, home life, diet. Supt. Frye's blanks are used. A Columbia student made tests of attention upon the pupils. Miss Ella Hastings is president of a New York society for the study of child nature, which later joined the

woman's conference of the society for ethical culture. The question of the duties imposed on children has been studied, parents' duties, proverbs of admonition, etc. G. W. Winterburn, editor of Childhood, writes of thirty local societies, with about 800 members in all, and with frequent meetings and addresses. Among the most interesting features of the movement in New York is the society of mothers, centering about Mrs. Felix Adler. The printed report of their informal meetings is full of suggestion.

Professor T. P. Bailey, Jr., reports that at the last meeting of the State Association of S. C., a committee on pedagogical investigation was appointed. The work centered at Marion, where children's interests, sense of justice, benevolence, ideas of tale-telling and drawings were studied. All teachers are advised to keep notes of cases, like physicians, and a specialist should be appointed to work them up. Moods, spontaneous definitions, are among the subjects suggested, and colored children and sand-hillers will receive special attention.

From Philadelphia, Miss. Constance McKenzie reported that an organization of kindergarteners and teachers under Dr. Witmer had been considered and would probably be effected, and take up the study of association or imagination the coming year. It is hoped that a working committee of kindergartners may coöperate.

In Chicago, an admirable start has been made by a large organization with Col. F. W. Parker as president. Drs. G. S. Hall and Bryan have lectured and great interest has been shown. Coöperation of some members of the University of Chicago has been secured. Mr. L. I. Block, in his report, hopes to enlist physicians

A second session of the Summer school of Clark University was held during the last two weeks of July. The program was fuller and the attendance much in excess of the year before, nearly 200 members being enrolled from different states and different countries. The gratifying success of the school was in no small degree due to the efforts of the advisory committee, composed of the most prominent ladies and gentlemen of Worcester, who entertained many members at their homes, provided a charming evening reception, and a no less enjoyable afternoon and evening at the Lake and Club House, and whose names will always be associated with the pleasant memories of the city, which the members of the Summer school are sure to always retain.

In addition to lecturing five times per week at Clark University Dr. G. Stanley Hall gave thirty-four public lectures elsewhere during the past academic year, going during the Christmas vacation on a tour as far west as Lincoln, Nebraska. He reports everywhere new and growing interest in all educational matters. He also contributed a series of five articles to the *Forum*, ending with the August number, on New Movements and Needs in University Education. It may also interest our readers to know that the articles beginning in the September (1894) *Atlantic Monthly* by H. A. Aikins are an account of informal meetings for the study of Plato, held Monday evenings by President Hall's students in his study.

Half a dozen pamphlets in the Russian language before us describe the activity of the *Komitet Gramotnosti* or commission of literacy founded in 1861. It is partly charitable and publishes select literature at a very cheap rate. Tolstoï's tale of two men who started on a pilgrimage to Jerusalem; one went there the other stopped on the way and spent his time and money helping a poor family, cost six kopeks—3 cents. Another little volume for 12

XUM

cents is the select work of Lermontov, the patriotic poet, some of those lines are set to music. The society occasionally provides food for poor children, medicine for those who suffer from chicken blindness, books, sometimes a cow to a poor family, but aids no family who does not send and no child who does not go to school. One volume contains a prize essay on the education of poor people in thinly settled districts. The society offers prizes now for the best book for adult reading on the geography and history of Russia, and for treatises on scientific subjects, but bars all fragments of science. One of the best books evoked by this system is Petrooshevski's tales of old times in Russia. Another is tales about Peter the Great and his time, and yet another is a life of Alexander II. Medals are given also to all who do signal service of any kind for education. Prof. Redkin, long rector of the University of St. Petersburg, has written a very successful book on science. The largest volume in the set just revised, a catalogue of books for youth and the people. Each book is fully described. Altogether they would make a very valuable educational library, although a large one.

The best treatise on School Hygiene and School-Houses yet published in this country is that by Dr. A. G. Young, Secretary of State Board of Health of Maine, in the report for 1892. It comprises 315 pages, is copiously illustrated, and shows acquaintance with the best recent literature upon the subject. It should be printed as a separate volume and used in normal schools.

The following case of self-projection in a child three years of age may not be without interest :

Katharine ———— is a perfectly normal girl, frank, truthful and not unusually imaginative. She is an only child and has been cared for wholly by her mother. She began to talk at about fourteen months and has now, at the beginning of her fourth year, a rather uncommon vocabulary, possessing not only the materials for ordinary conversation, but having some command, also, over synonymes and idiomatic expressions. Moreover, she is observing and quick to see the relationships of facts and ideas.

She seems to have had little of the trouble that is noted by many observers of children in the matter of self-identification. I have seldom seen, even in her second year, any confusion or hesitation regarding the cause of the effects which her own actions have produced ; and almost from the beginning of speech she has used "I" and "me," equally with "Katharine" and "baby," to indicate herself. She has, from an early period, readily recognized photographs of herself and did not long keep up the customary demonstrations towards the "baby in the glass," soon accepting her image as, in some way, herself, and taking no further notice of it. She has, therefore, it seems to me, fully identified herself as the cause of her own acts.

Nevertheless, for about ten months she has talked constantly of her "little friend Morrie." The word is probably a corruption of Marie, an older child of that name having spent a day with her at about the time the "little friend" appeared. Morrie plays a double rôle ; that of a playmate and, as it seems to me, that of a sort of self-projection or idealization of the child who has created her. She seems to be almost identical with Katharine in the conditions of her life, having the same home relations, toys, pleasures, etc.; but on the ethical side (so far as that is developed in a three year old child), she differs very materially from her creator. I think I am not mistaken in believing that Morrie represents to

Katharine the ethical ideal towards which, in her little way—and it is an earnest way, for she is a child of strong will and affectionate impulses,—she is striving. When Katharine is mischievous and disobedient, "Morrie", we are informed, "minds her mamma" and does not do such naughty things. When the right course of behavior is pointed out to Katharine, her acquiescence is shown by her announcement that "Morrie has done" or "is doing" this or that thing properly. Morrie seldom acts under compulsion, or "as her mamma tells her," but appears to do right of her own impulse. In this way she represents, I think, the free will of the child, aroused in the first place by the mother's admonition, but, in the end, acting independently.

On the other hand, on the rare days when Katharine is perfectly good and obedient, Morrie is represented to have committed various misdemeanors, the consciousness of well-doing being heightened, apparently, by the contemplation of this imagined contrast. Having, for the moment, attained her ideal, Katharine finds her image of it superfluous and treats it with some contempt. Occasionally, but this is unusual, Morrie's misdeeds are offered in excuse for her own. Such pleas are made with a good deal of hesitation, however, and when frowned upon, are promptly withdrawn.

Besides being this ethical ideal, Morrie stands as the representative of material good. In the romances which, like all children of her age, Katharine relates to her parents or rehearses to herself, Morrie is generally the central figure ; but the reflection which these romances give of the actual happenings of Katharine's life is heightened by the addition of things which she would like to have happen. As Katharine has, of course, only a vague notion of what these coveted events are, there is much seeming nonsense in what has for her, I am convinced, considerable meaning. Moreover, Morrie is permitted to eat articles of food that are forbidden to Katharine, or that are promised to her when she shall be a "big girl;" Morrie is allowed to run in the wet grass, to play out of doors in the rain, to drive the horse, etc. But, without exception, the statements regarding these privileges that are enjoyed by Morrie are made simply as statements, without any apparent idea or hope of influencing the decision in her own case or of exciting sympathy ; indeed, the mere announcement that Morrie enjoys these forbidden things seems to console Katharine for her enforced self-denial. In a vague way she associates the possession of these forbidden pleasures with the perfection of character with which she has endowed Morrie. It is a materialization, it seems to me, of the rewards of virtue ; sure, with childish faith, of utimately attaining the virtue, she is content to await the rewards. "Big girl," I think, is dimly equivalent, in her mind, to "good girl" and the denial of certain foods and pleasures is associated with her misdemeanors. I am the more certain of this because Morrie is often spoken of as a "big girl" while her actions are represented to be, not those of such "big girls" as the child knows, but of a little girl like Katharine herself.

The second role which Morrie fills is the common one, with imaginative children, of a playmate. An only child, Katharine, finds great entertainment in talking to Morrie, ordering her about and arguing with her. In this capacity Morrie often receives, at second hand, the discipline administered by Katharine's mother. For this and many other reasons, I think that in this aspect Morrie is quite a different person, in Katharine's mind, from the ethical creation of whose behavior she gives such minute account. Of this playmate-

XUM

Morrie Katharine is rather jealous; while the mother is sometimes asked to caress the phantom, the father is never allowed to do so and, on the days when he is at home, the playmate is generally said to be "sick abed," although the ethical Morrie is still treated as being present. Recently, when he and the mother have questioned Katharine regarding Morrie, in the hope of gaining more distinctly her idea of this projected self, this jealousy has been especially aroused so much so that Morrie was made to fall down stairs and break her legs, "and there isn't any more Morrie." She was resurrected, however, on the following morning and presented with a sister, a gift for which Katharine was just then anxious. The parents are allowed to ask a reasonable number of questions about Morrie and they are always expected to gratify Katharine by acceding to all the statements that are made regarding her, but they must not "pretend" about her themselves—except when, occasionally, the mother is asked to pet her,—and if she is called into the room they must not make pretence of seeing her and talking with her. If they do, a certain anxiety seems to fill Katharine's mind; she becomes, in a mesure, afraid of her own creation and is suspicious, too, that she is being ridiculed. Sometimes, on such occasions, the parents are reminded that Morrie lives in Cambridge (seven miles away) and there is very indication of an effort being made to have them comprehend the ideal character of the "little friend."

Katharine's father has had, ever since he can remember, that "double consciousness" which is so common, that feeling of being made up of one entity observing and criticising another entity less free than the first. As it appears to me, the child's attitude towards Morrie is very similar. It is a case of double consciousness where the child, having been always free to tell everything to her parents, exposes to them, in this naive ways, the inner workings of her ethical process.

I believe that this fancy is of immense benefit to the child's moral growth; all the greater, perhaps, because the parents cannot themselves use Morrie, as they have without success attempted, as an example and moral incentive. Such a use of her is immediately resented, although they have no difficulty in availing themselves of the behavior of real children as a moral spur to Katharine.

Katharine has a second imaginary friend, "Maggie," the fictitious child of the washerwoman, whom she talks about wholly in a humorous fashion and whose existence she regards as a transparent joke. But Morrie is a serious creation who must on no account be laughed at. It will be an interesting study to watch the process through which she too, shall become a joke.

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XUM